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Brain Privacy, Intimacy, and Authenticity: Why a Complete Lack of the Former Might Undermine Neither of the Latter!

Introduction

While neuroscience dates back to the 1920s at least, it has been making rapid progress since the development of magnetic imaging scanners in the late 1970s (Illes and Racine 2005; Tovino 2006, pp. 419–422). The discipline holds great promise while at the same time raising important concerns. One such concern is that it will enable others to obtain information about ‘the most private things about a person’; that is, ‘his or her inner mental life’ (Powell et al. 2014, p. 46), thereby intruding on an area to which persons have previously enjoyed privileged access (cf. Eaton and Illes 2007; Farah 2002, p. 1127; Tong and Pratte 2012, p. 502). The ultimate worry is that we might one day have cheap and portable mindreading machines, ‘which can scan the brains of subjects and reveal intimate details about their thoughts, without their knowing that they are under the mental microscope’ (Levy 2007, p. 138).

If our concern is this ultimate one, there is no reason for alarm any time soon. As Neil Levy writes, ‘it is safe to claim’ that the relevant kind of mindreading technology ‘is (at least) a long way off’ (Levy 2007, p. 138). Still, this does not mean that there is nothing to worry about, since as Martha J. Farah et al. (2010, p. 126) argue, ‘functional neuroimaging is... already capable of delivering a modest amount of information about personality, intelligence, and other socially relevant psychological traits’. Here are three examples. A famous study carried out by Elizabeth Phelps et al. (2000, p. 733) found that ‘variability in amygdala [a small part of the brain which is functionally correlated with fear and aggression: KLR] activation among White subjects is correlated with negative indirect responses to

Black compared to White faces on behavioral measures'. While Phelps and Thomas (2003, p. 755) cautioned against using fMRI (i.e., functional magnetic resonance imaging) scans as a basis for labeling someone a racist, the study was widely seen as raising the prospect of brain scan-based detection of racial bias of which the subject might herself be unaware and even strongly disavow (cf. Farah et al. 2002 Tovino 2006, p. 426).

Second, determining someone's psychological traits or dispositions through a brain scan is different from determining the content of someone's conscious thoughts. However, a number of studies succeeded in identifying neural correlates of deception. Langleben et al. (2005, p. 262) claim that 'fMRI, in conjunction with a carefully controlled query procedure, could be used to detect deception in individual subjects'. When combined with subject's self-reports about what they believe such techniques enable researchers to predict with a high degree of precision—higher than in the case of other mindreading techniques, such as polygraphs—what the subject does *not* believe. While some have serious doubts about fMRI-based lie detection, at least two US companies are currently offering fMRI-based lie detection services on a commercial basis (Rusconi and Mitchener-Nissen 2013).

My third example is the use of neuroimaging to determine emotions. In a study of the neural correlates of maternal and romantic love, Andreas Bartels and Semir Zeki (2004, pp. 1161–1162; Tovino 2006, p. 432) found that the two forms of love involved the activation of different parts of the brain together with overlapping areas in the brain's reward system. Subsequently, journalists speculated that neuroimaging techniques would be used to determine, say, people's sexuality, thus enabling homophobic employers to screen applicants and deselect gays (Tovino 2006, p. 434).

Here, I will largely ignore the limitations of present neuroscientific means of accessing the content of people's minds to focus on the (possibly) dystopic possibility of cheap, portable, reliable brain-scanners making us transparent to one another. This is the scenario that figures in the ultimate worry described by Levy. My reasons for adopting this focus are twofold.

First, it initially seems as though the more powerful the forms of neuroimaging in question, the greater the threat to privacy (cf. Fried 1970, p. 150). Hence, if one can show that even with extremely and unrealistically powerful neuroimaging techniques the risk posed to privacy is neither distinctive nor strong, one's conclusion is more interesting from the point of view of normative theory, even if it addresses possibilities that are in the distant future or might never be realized. With some reservation, that sort of conclusion is exactly the sort of conclusion I will defend in this article.¹

The second reason for my focus is that it enables me to cast more light on the value of privacy than would be the case were I to focus on current technologies that challenge privacy much less.² The downside to this is that I shall not directly assess present neuroscientific means of mindreading.

Section 2 distinguishes the particular form of privacy that is in focus in this article—control over personal information—from other forms of privacy. Section 3 sketches a number of arguments to the effect that privacy is valuable because of how it enables intimate relations to others and an authentic inner life. Section 4 argues that

¹ I shall also argue against the presumption expressed in the first sentence in this paragraph.

² Most of the available brain scan techniques require the prior cooperation of the subject about to be scanned; for example, by answering questions used to correlate brain states with mind states (Arstila and Scott 2011, p. 208; Gilead 2015, p. 283), as well as cooperation while being scanned, for example, by not moving. To the extent that such cooperation is voluntary, it does not appear to violate any *right* to privacy.

neuroimaging techniques do not pose a qualitatively distinct threat to control privacy; that is, one that is essentially different from reading people's diaries or old-style mindreading that involves the interpretation of facial expressions. However, it would be a fallacy to infer from this fact that neuroimaging of the brain does not prevent any serious threat to privacy. Hence, Section 5 argues that the local uses of mindreading techniques, such as the installment of brain scanners in airport security, undermine neither authenticity nor intimacy. Things become more complicated when it comes to the global availability of mindreading techniques, but intimacy and authenticity might survive even in the extreme case of complete transparency. First, intimacy might flourish through the differential acknowledgement of knowledge as common knowledge; for example, even if I know that both a friend and my taxi driver know that I have a kinky sexual fantasy, I might only acknowledge this as common knowledge and, thus, an admissible piece of conversation with my friend only, and this differential acknowledgement might be enforced by norms of social interaction. Second, the gaze of others would become much less oppressive if the inner lives of everyone became transparent to everyone else. Section 6 sums up the article. Since my overall conclusion is rather anti-dystopic, I would like to emphasize that I am by no means making any claims about mindreading techniques not being morally undesirable for reasons other than how they affect intimacy and authenticity.

Before proceeding, I should flag the fact that I use 'brain-reading' throughout this article to refer to any technique that establishes neurological properties of the brain. In the present context, fMRI is probably the most salient brain-reading technique, but simple direct observation of a skull-less person's brain might also represent an instance of brain-reading. Not all forms of brain-reading establish psychologically relevant properties, as in the case of a brain scan to measure a tumor.

I use ‘mindreading’ to refer to any technique that establishes the psychological properties of a person, such as her thoughts, feelings, emotions, psychological dispositions etc. Not all mindreading involves brain-reading. Indeed, the commonest form of mindreading involves the reading of people’s minds on the basis of behavior, that is, their deeds, including what they say. In the present context, fMRI is the most salient form of mindreading insofar as the users of the techniques make inferences regarding the content of the subject’s mind from the sub-psychological properties of the subject’s brain as revealed by the fMRI scan.

In drawing a distinction between brain- and mindreading, I want to remain as uncommitted as I possibly can on the nature of the mind-brain relation, such as whether mental states are identical to or constituted by the relevant physical states upon which they supervene. However, I will suggest a certain partial view of the nature of the mental in Section 4.

Finally, I will assume that while there are non-mind-related reasons to care about brain privacy—such as when a brain scan incidentally results in unexpected, medically relevant findings—brain privacy is desirable to the extent, and mostly only to the extent, that it is relevant to mind privacy.

Control Privacy and Other Forms of Privacy

‘Privacy’ is used to express very different moral and legal concerns (Rössler 2005, pp. 4-10). For present purposes, I will adopt the following definition:

X enjoys *control privacy* relative to another person, Y, regarding information about a certain matter, M, if, and only if:

- 1) M is a matter of personal information about X.

- 2) X enjoys or, prior to relinquishing it, did enjoy control over Y's access to M such that if X does not give (or had not given) Y access to M, Y has little individualized evidence for any beliefs about M.
- 3) It is both relatively easy and costless for X to deny or grant Y access to M.³

Let me explain this definition in some detail. First, control privacy is compatible with the complete absence of—as well as full presence of—*content privacy*, by which I mean the state of privacy relative to another person in which, as a matter of fact, this person has little individualized evidence for any beliefs about M (cf. Parent 1983, p. 273). To see the former point, imagine an author, who exercises her control privacy by publishing a book detailing all of the intimate details about her mental life. The author no longer enjoys content privacy relative to any reader of the book regarding her past mental life. However, she might still enjoy control privacy in the present sense. That is, even if she enjoys no current time-slice control privacy after the publication of her book, this situation arises as a result of her free exercise of her past, time-slice control privacy and, thus, does not deprive her of any control privacy in the relevant, path-dependent sense. To see the latter point, suppose that a neuroscientist has a scanner capable of reading my mind and making the information publicly available and that I have no control over whether the scientist does so. She never uses the scanner and, accordingly, I have complete content privacy, but no control

³ There are some affinities between my concept of control privacy and what Rössler (2005, p. 9) calls 'informational privacy'. Both concern control over personal information. However, Rössler's notion pertains to whether people have (or claim to have) a right to control privacy, whereas control privacy in my sense is a purely descriptive notion. Also, her notion makes no mention neither of the distinction between individualized and non-individualized evidence, nor of the costs/difficulties involved in exercising (one's right to) control over personal information about oneself.

privacy.⁴ Also and positively, Robinson Crusoe does not enjoy control privacy relative to a person living in London, since he has no way of granting this person access to personal information about himself (cf. Schoeman 1984, p. 3). Nevertheless, he might enjoy perfect content privacy relative to that person.

Second, control privacy is relational in the sense that there is always someone relative to whom one enjoys or does not enjoy privacy. Moreover, one can enjoy control privacy relative to one person but not relative to another. This feature of the definition is attractive, since the significance of control privacy in relation to a particular piece of personal information depends on which individuals relative to whom one enjoys control privacy.⁵ Many people do not see anything regrettable about their having less control over their friends' access to (a subset of) their feelings, thoughts etc. than they have over, say, the access of government agencies to them.

Third, privacy has to do with personal information. Such information can be defined differently—subjectively or objectively, functionally or content-wise—for example, as information about oneself, the availability to others about which one is not indifferent (cf. Parent 1983, p. 270). I can allow that there is information pertaining to matters about oneself that are irrelevant to privacy, such as the exact weight of my left foot. Drawing such a clear line between personal and non-personal information is tricky. For present purposes, we can sidestep this issue by focusing on

⁴ Alternatively, one could argue that in order for one to have control over X, it is not necessary that one has control over any Y, which is such that if Y occurs, one has no control over X. There is a sense in which I have control over whether I work on my article on privacy tomorrow, even if I have no control over whether I am hit by a meteor later today and the facts are such that if I am hit by a meteor today I have no control over whether I work on my article on privacy tomorrow. In the interest of simplicity, I omit using time-indexes, e.g., at t_1 X enjoys control over whether Y has individualized evidence for beliefs about M at t_2 .

⁵ This significance typically varies such that in relation to one piece of information I care more about control privacy relative to family and friends than to the state, whereas as far as another piece of information is concerned I care more about control privacy relative to the latter.

matters that intuitively qualify as involving personal information and would qualify as such on any plausible definition.

Fourth, the qualification ‘individualized’ is required for the following reason. Suppose everyone knows from a range of high quality psychological studies that almost everyone between ages 15 and 75 has sexual fantasies. This might give me very strong reason to believe that you have such fantasies, even in the absence of individualized evidence supporting this belief. In fact, even if I have individualized evidence supporting the contrary belief—for example, you insist that you have no sexual fantasies—in the light of the overwhelming statistical evidence and the possibility that you are mistaken or insincere, I might still have very strong evidence overall that you have sexual fantasies.⁶ Intuitively, you still enjoy control privacy about your sexual fantasies despite the public availability of the relevant, high quality psychological studies (cf. Thomson 1975, p. 307). Hence, it is not the case that privacy ‘is control over knowledge about oneself’ (Fried 1970, p. 141) *tout court*. My notion of control privacy accommodates this by focusing on individualized evidence.

Fifth, suppose I control the access of others to my mental life but that it is very difficult or costly for me to exercise that control; for example, I will be unable to get a job unless I consent to being subjected to a brain scan at a job interview. Given that I will starve if I do not get the job, my consenting to the brain scan does not mean that now I can no longer complain about others, *in casu* my employer, having access to intimate information about my thoughts on the grounds I had control over whether they obtained such access and consented to being subjected to a brain scan.

Sixth, the distinction between that over which people ought to have control privacy and that over which they should not have such control is often aligned with

⁶ This fact becomes relevant in relation to the discussion of intimacy in Section 3.

the distinctions between private and public and between private and political. These distinctions are rather problematic in themselves as are their use in the present context, since ‘public’ and ‘political’ are rarely taken to mean simply that which is non-private and, accordingly, you get difficult discussions about whether the private is political etc. (cf. Mendus 2008, 304-307; Rössler 2005). For present purposes, I can steer clear of those debates, since one can enjoy control privacy with respect to information about oneself that would normally be considered information belonging to the public sphere, such as a president’s intention to violate the constitution.

Control and content privacy include far from all of the concerns that have been discussed under the heading of privacy. For instance, some think that the moral concern regarding privacy pertains to *physical seclusion privacy*; that is, the right to be left alone (cf. Friedman 2000, p. 186). Others believe that a concern for privacy includes a concern for *perceptual privacy*—that others do not see, hear, sense, (taste, or smell?) you unless you waive your right against others doing so (Parker 1974, p. 281; Scanlon 1975, p. 315; Thomson 1975, pp. 305–306;). Perceiving someone is a way of acquiring information about them. But we can imagine someone who has waived his right to information content privacy—his Facebook profile contains updated text bits about how he looks and so forth—and yet has not waived his right to be perceived by others.

A fifth concern, which has been thought of as a matter of privacy, relates to others not ‘placing one in a false light in the public eye’ (DeCew 2013, p. 4; Prosser 1960, p. 389). Call this *correctness privacy*. This concern is clearly different from the previous ones. If somebody reveals true, non-misleading information about my innermost thoughts, they have not acted contrary to a concern for correctness privacy, but they might have acted contrary to physical seclusion privacy if they obtained the

relevant information by physically intruding on me and contrary to perceptual privacy if they obtained the relevant information by directly observing me.

Sixth, there is the concern about securing the independence of individuals ‘in making certain important and personal decisions about [their] family, life and lifestyle’ (DeCew 2013, p. 5; cf. *Roe v. Wade* 410 U.S. 113; *Griswold v. Connecticut* 381 US 479). Call this *executive privacy*. Again, the concern for executive privacy is different from the other privacy concerns and the one in focus here. In principle, I might enjoy perfect executive privacy without enjoying control privacy, since whatever important, personal decisions I make about my family, life, and lifestyle, I do not control whether others have this information. Admittedly, these two privacy concerns are contingently linked such that if one enjoys no control privacy, then one will typically have less executive privacy, since the former condition means that one will be exposed to external pressures, rendering it difficult to make independent choices about one’s family and the like. There are other concerns that might be construed as privacy concerns, and the present list is not meant to be exhaustive.

In an influential article, Thomson observed that the most striking thing about ‘the right to privacy is that nobody seems to have a clear idea what it is’ (1975, p. 295).⁷ Presumably, this lack of a settled idea derives primarily from the privacy bit (not the right bit) and is reflected in the six different conceptions of privacy—control-, content-, physical seclusion-, perceptual-, correctness-, and executive privacy—between which I have distinguished above. In the present case, however, it is prudent to focus on the sense of privacy that is most clearly at stake in relation to brain-

⁷ Thomson believes that the right to privacy can ultimately be reduced to property rights over oneself and external possessions. I believe this is not so (cf. Schoeman 1984, pp. 27–28). However, because my main concern is with the value of privacy, I need not take a stand on Thomson’s reductionist claim.

reading, and the relevant notion of privacy here is information control privacy. This is what I shall do in the rest of this article.⁸

The Value of Control Privacy: Intimacy and Authenticity

Control privacy is valuable for many different reasons. For instance, if I have criminal intentions, it is instrumentally valuable for me to control the access of outsiders to them. Similarly, if I have a more realistic and negative assessment of my market value than does my employer, I have an interest in control privacy. The same is the case for my employer if she has a more realistic and positive assessment of my market value than I do (cf. Frey 2000, p. 46; Posner 1981; Rachels 1975, pp. 323–325).⁹ In this article, I will focus on two particular values of privacy, which play a more significant role in the privacy literature.

First, control privacy seems to enable us to form intimate relations with others. It does so in many ways. One is how exposing intimate facts about my life carries a certain symbolic meaning to the effect that I attach greater significance to our relation than I do to that of, say, a colleague with whom I am forced to interact.¹⁰ Some philosophers have made very strong claims about the connection between intimacy and privacy. James Rachels (1975, pp. 327–329), for instance, has argued that

⁸ An anonymous reviewer suggested that content privacy, no less than control privacy, is at stake in relation to brain-reading. I disagree, but, at any rate, my arguments pertaining to why global uses of brain-reading might not pose a threat to intimacy and authenticity apply, *mutatis mutandis*, to content privacy as well.

⁹ Other values allegedly promoted by or requiring privacy include self-respect and self-esteem (DeCew 2000, p. 213).

¹⁰ In the case of unacknowledged dispositions, such as racial bias (see Section 1), lack of control privacy cannot undermine intimacy because it eliminates one's option of informing one's intimates of one's dispositions. That is not to say, however, that lack of control privacy does not make one less capable of forming intimate relations; for example, if others publicize facts about one's objectionable biases in a society where such biases are frowned upon. (But perhaps such biases, because always publicly accessible, are much rarer in that scenario.)

(something like) control privacy is necessary to maintain a variety of social relationships, including intimate ones. Similarly, Charles Fried (1970, pp. 137–152) has argued that control privacy is necessary for its being possible to maintain varying degrees of intimacy with others and, in this way, necessary for relationships such as love, friendship, and trust (but see Reiman 1976). Call this the *privacy intimacy value*.

Second, control privacy means that I can think and fantasize ‘without the moral pressure that might come from observation’ (Levy 2007, p. 155). This protects our ‘inner life from a public exposure that would cause it to wither, or would require too much distortion’ (cf. Fried 1970, p. 149; Nagel 1998, p. 10). Human beings are self-conscious, but the

awareness of how one appears from outside is a constant of human life, sometimes burdensome, sometimes an indispensable resource. But there are aspects of life which require that we be free of it, in order that we may live and react entirely from the inside. (Nagel 1998, p. 20; cf. Lippert-Rasmussen 2003)

Call this the *authenticity value*.

One could undoubtedly be clearer on the exact nature of the relation between control privacy, on the one hand, and intimacy and authenticity, on the other hand, than, along with others writing on the subject, I have been so far. Some authors go as far as to claim that the former is conceptually necessary for or ‘constitutive of’ either one or both of the latter, while others are better interpreted as claiming that, in modern societies at least, the former is causally necessary for, or at least strongly causally conducive of, either or both (Rössler 2005, p. 9; cf. Rosenberg 2000, p. 70). I shall set aside the differences between these three views aside and say that all of them are

versions of what I will label ‘the strong connection view’. Below I will argue that we have insufficient reason to embrace the strong connection view.

Some believe that both having intimate relations with others and being authentic have non-instrumental value; for example, that one’s life is better, *ceteris paribus*, for having intimate relations with others and having access to one’s true self (Griffin 1986, p. 67). Others deny this arguing that intimacy and authenticity have instrumental value only. For the present purposes, I can set this issue aside. All I need to assume is that intimacy and authenticity are valuable, which few, though not no one, deny (DeCew 2013, p. 13). In the interest of focus, I shall not defend this common view, but simply assume it.

Intimacy and authenticity motivate different forms of brain privacy. At least this is so to the extent that there is information such that revealing it is irrelevant to the establishment and message of intimacy, but is such that its being accessible to others prevents one’s authenticity, or *vice versa*. Still, it is reasonable to expect that the two values will generally motivate similar forms of brain privacy. If a certain item of information is one that I have an interest in protecting from public gaze, revealing it to others is a way of establishing and signaling intimacy because of the risk to which I thereby expose myself (among other things).

Is Brain Privacy Special?

Having laid out the two privacy values in focus here, I will now explore whether brain-reading threatens mind privacy in ways that are qualitatively different from other mindreading techniques. Basically, there are two ways to reject this. First, one might argue that brain-reading does not give us any access to the content of people’s minds that is importantly different; for example, in terms of what kind or amount of

information one might obtain through such techniques from ordinary means of mindreading. This argument is compatible with the view that brain states somehow have a special status relative to someone's mind. The second way of denying that brain privacy is special is by denying that the mind is tied only to the brain. This brings us to the extended minds thesis. Accepting the extended mind thesis is consistent with also denying that brain privacy is special for the first reason mentioned. I deny that brain privacy is special on both grounds.

First, undeniably, we read people's minds in ways that do not involve scanning their brains (Kahane 2008, p. 1573; Shen 2013). Indeed, we reliably detect people's (deepest) beliefs when interpreting their actions, facial expressions, and from what they tell us about what they think and feel. Call these ways of reading someone's mind *standard mindreading*. Presently, for neuroimaging to be able to tell us something about the subject's mind, it is necessary that we calibrate the relevant machinery relying on the (or some) subject's reports about the content of her mind. Hence, such forms of mindreading will not enable us to access any aspect of our mind that we cannot access through standard mindreading.

Some might suggest that brain-reading is special, because we observe the brain directly, which obviously is not true of standard mindreading (cf. Ryberg 2007). But imagine that we were all born with transparent skulls and the ability to read someone's mind by seeing the surface of their brain, perhaps, quasi-phrenology-style, by noting minute variations in color and surface structure. If everything else, such as reliability, were equal, this would seem no different from reading people's mind on the basis of facial expressions, the tone of their voice, posture and so forth. Moreover, privacy-wise, mindreading in this counterfactual scenario would seem no

different from neuroimaging. If these two claims are true, it follows that, in an important sense, ordinary mindreading is no different from neuroimaging.

Second, one might deny that brain-reading is special because one denies that the mind is located, or at least only, located in the brain. This is what friends of the extended mind thesis argue. According to their view:

...the mind is not wholly contained within the skull, or even within the body, but instead spills into the world. The mind ... should be understood as the set of mechanisms and resources with which we think, and that set is not limited to the internal resources made up of neurons and neurotransmitters. Instead, it includes the set of tools we have developed for ourselves – our calculators, our books, even our fingers when we use them to count – and the very environment itself insofar as it supports cognition (Levy 2007, p. 29).

To see the motivation for the extended mind thesis, consider the following two cases that Andy Clark and David Chalmers—two proponents of the extended mind thesis—use to motivate it: Inga wants to see an exhibition at the Museum of Modern Art and decides to visit it. After a moment's thought, she recalls that MoMA is on 53rd Street and walks off in that direction. Otto forms a similar intention, but instead of trying to remember the location of the museum—Otto has Alzheimer's—he consults the notebook in which he writes down all sorts of information. He manages to recall the location, notes that it is on 53rd Street, and sets off to the museum. Both stored the relevant piece of information—Inga internally, Otto externally. For both of them, the relevant piece of information was: 1) constantly available—just as Inga could consult her memory, Otto could consult his notebook; 2) directly and easily accessible—Otto

always carries his notebook with him and can often look up the relevant information faster than Inga can recall it; 3) automatically endorsed—Otto automatically believes that MoMA is on 53rd Street when he finds the relevant sentence in his notebook; and 4) was consciously endorsed at some point in the past; that is, when he wrote down the location of the museum in his notebook (Clark and Chalmers 1998, p. 17).

According to Clark and Chalmers, there is no reason why Otto's notebook should not be considered part of his mind—or, if you like, mind-subvening—when the part of Inga's brain in which she stores her corresponding information clearly is. Admittedly, Otto had no occurrent belief about where MoMA is located prior to looking it up in his notebook. But neither did Inga before trying to recall its location, and yet we would say that she 'knows' where it is even before she acquires an occurrent belief about the matter.

In the present context, the implication of the extended mind thesis is that brain privacy is not special. Its claim to being so rests on the assumption that the brain has a special relation to the mind such that the mind is located in, and not outside, the brain. But if the extended mind thesis is true, the mind spills into those things in the external world that we use to think. Hence, secretly reading Otto's notebook and scanning his brain would both be ways of reading his mind and, thus, equivalent ways of depriving him of control privacy. In sum, for the two reasons given, brain-reading is not qualitatively different from other ways of reading people's minds.¹¹

How Is Brain-Reading a Threat to Privacy?

¹¹ This is compatible with the claim that brain-reading technologies are different in the sense that they enable us to access much more private information, quantitatively speaking, than standard mind-reading techniques. I assess the relevance of the truth of this claim in my discussion of the Global Use Scenario in the section below.

Suppose that brain-reading poses no distinct threat to the value of privacy. It would be a fallacy to infer from this that it poses no threat at all (cf. Lever 2012, 207). Cluster bombs might pose no distinct threat to civilians compared to other bombs, even if, overall, the situation is worse for civilians if the warring parties conducting aerial bombardments have both cluster bombs and other bombs at their disposal than if only the latter. Hence, even if we accept Neil Levy's weak ethical parity principle,

Alterations [and monitoring] of external props are (*ceteris paribus*) ethically on a par with alterations of the brain, to the precise extent to which our reasons for finding alterations of the brain problematic are transferable to alterations of the environment in which it is embedded, (2007, p. 67)

it does not follow that the neuroimaging of the brain is not a threat, perhaps even an additional threat, to privacy.

The magnitude of the threat to intimacy and authenticity posed by brain-reading depends considerably on how, by whom, and the extent to which it is used. Here, I want to discuss two extremes, both of which involve a high degree of simplification. However, we can consider the robustness of the claims about these two extremes in the light of the complications that one might like to introduce.

One extreme is that brain-reading techniques are used in any context, by anyone, and in such a manner that, Panopticon-style, one is never aware of when it is used and when not, although one is aware that it is used very often. When obtained, the relevant information can be distributed freely, such as being posted on the Internet. Call this the *global use scenario*. The other extreme is that such techniques are used in a small number of very limited settings, such as airports or courts. Moreover, only people that have obtained a license to use brain scanners do so, and they only use the information so obtained for very specific purposes. Nor do they

distribute the information obtained and take care to ensure that people are aware of the fact that they are subjected to neuroimaging and so forth. Call this the *local use scenario*.

In the local use scenario, neither intimacy nor authenticity is undermined. People can still express intimacy by revealing personal information about themselves, even if such information is also momentarily accessible to airport security officers or courts that treat the information confidentially. And, surely, one will have plenty of opportunities to entertain offensive, iconoclastic, or vulgar thoughts isolated from the moral pressures of observation, although one might have to concentrate not to let thoughts wander in airports (just as some people might have to concentrate not to speak to themselves publicly, as when absorbed in thoughts about an ongoing affair).¹² As Scanlon writes in relation to our interest in privacy: ‘what matters most is that some system of limits to observation should be generally understood and observed’ (cf. Fried 1970, pp. 144–145; Scanlon 1975, p. 318). None of this suggests that we should not be concerned about abuses of brain-reading in the local use scenario (just as we should be concerned about any other abuses of standard mindreading technologies), but it does suggest that, for present purposes, we should focus on the global use scenario.

The global use scenario clearly seems to pose a threat to intimacy and authenticity for the reasons indicated in Section 3, although one cannot rule out that surprising changes imply that these threats are most worrisome in scenarios somewhere between the local and global use scenarios.¹³ For instance, assuming that

¹² One reason for this is that the social pressure exerted by strangers is less effective than social pressures exerted by those to whom one is personally related.

¹³ The threat does not presuppose that people are always under surveillance. It suffices if they *believe* that there is always some significant probability that they are, even if, in fact, they never are. This is the lesson of the Panopticon.

there are shameful episodes in the mental lives of everyone and these episodes all came out in the open, perhaps people would feel very different about the shameful mental episodes of others and, thus, also different about their own comparable mental episodes (cf. Arneson 2000, p. 106). We cannot infer from the fact the exposure of such episodes are damaging to the person exposed, given the background fact that only *few* such episodes are exposed, that the damage would be much greater if *all* such episodes were exposed.¹⁴

Consider the following text bit from Milan Kundera reproduced by DeCew (2013, p. 8) to support the claim that privacy is necessary for the freedom to ‘define ourselves and our relations to others’. In former communist Czechoslovakia, the police broadcasted private conversations between a certain person they wanted to discredit, Prochazka, and his friend. Since

in private, a person says all sorts of things, slurs friends, uses coarse language, acts silly, tells dirty jokes, repeats himself, makes a companion laugh by shocking him with outrageous talk, floats heretical ideas he’d never admit in public, and so forth, (Kundera 1984; quoted from DeCew 2013, p. 8)

they had some initial success in their endeavor.¹⁵

We cannot extrapolate our assessment of Kundera’s story to the global scenario. In Kundera’s story, only the private conversations between two persons are broadcasted. However, if private conversations between everyone were broadcasted, this would be self-defeating from the point of the view of the state, precisely because,

¹⁴ Cf. ‘failures of privacy lead to feelings of shame’ that ‘the number of people who feel shame will dramatically increase’ if there will ‘be more and more application fields of fMRI and more and more people whose brains will be scanned’ (Räikkä 2010, pp. 9, 11).

¹⁵ In this situation, there is an asymmetry of power that would not exist in the global scenario—the state, and only the state, can choose whose private conversations to broadcast. One can object to such power asymmetries even if one does not object to the lack of privacy as such, and my concern here is with the latter objection.

as Kundera observes, everyone (or almost everyone, at least) says all sorts of obnoxious things in private. (This author is an exception, of course...) Hence, it might in no way have discredited Prochazka if his private conversations had been broadcasted along with the private conversations of *all other* Czechoslovakian citizens (if, *per impossibile*, we assume that everyone could listen to all broadcasts). Perhaps the gaze of others would cease to be oppressive under full transparency and would not prevent us from exploring the depths of our psyches.

In the interest of clarity, here is a quasi-formal presentation of my present line of argument in relation to authenticity:

1. Full transparency is only a threat to authenticity if it leads to shame.
2. Full transparency only leads to shame if it makes individuals think less of themselves at the thought of how they are seen by others.
3. Full transparency only makes individuals think less of themselves at the thought of how they are seen by others if not everyone has objectionable or otherwise unattractive thoughts, desires, fantasies, etc.
4. Everyone has objectionable or otherwise unattractive thoughts, desires, fantasies etc.
5. Thus, it is not the case that full transparency is a threat to authenticity.

This argument strikes me as approximately sound and in any case helpful in identifying why you disagree with me about full transparency, if you do. Premise 1 strikes me as approximately true; the gaze of others might be destructive of authenticity for reasons other than those related to shame, but surely fear of shame is

very important here (cf. Parent 1983, p. 276).¹⁶ Premise 2 presupposes a relational understanding of shame. It is standard, although not everyone accepts it (Velleman 2001, pp. 28–31).¹⁷ Premise 3 strikes me as very plausible given premise 2 and given the fact that, under full transparency, everyone knows that everyone else has flaws comparable to their own. Some people might be able to experience some degrees of shame even under such conditions, but it seems rather reasonable that, say, almost everyone experiences no or significantly less shame in revealing their kinky fantasies—they might even form a club!—or envy to people known to be like-minded than to saint-like others known to have perfectly politically correct fantasies and no inkling of envy whatsoever.¹⁸ Premise 4 is, I would think, probably true and, in any case, believed by others to be true and therefore not an issue in the present context (cf. Nagel 1998, p. 7). Admittedly, the content of some people’s inner lives is in all likelihood more repulsive than that of others. Arguably, the latter fact bears on

¹⁶ Some think that ‘naked exposure itself... is disqualifying’ (Nagel 1998, p. 4; cf. Rachels 1975, p. 325); that is, it is disqualifying, even if that which is exposed is nothing to be ashamed of, such as photos of a public figure excreting or a married couple having sex. I agree, but I think that this fact largely reflects how we are often ashamed of something that is nothing to be ashamed about and it is difficult to tell if such shame would persist if everyone were subjected to ‘naked exposure’.

¹⁷ Velleman thinks that the basis of shame is that one’s standing as a self-presenting agent is compromised (cf. Rössler 2005, p. 116). *Pace* Velleman, full transparency is compatible with such standing, even if all facts about one’s mental life are out in the open. After all, such facts are in need of interpretation and one can have the capacity to interpret oneself in ways that convince others. Similarly, you and I might know all the sentences that comprise a poem, and yet you might have the capacity to convince me about the correctness of a certain view of what it means.

¹⁸ An anonymous reviewer suggested an interesting related hypothesis: that we do not feel less shame for having more shameful episodes in our mental lives exposed, but that ‘shame fatigue’ sets in at some point such that the marginal increase in distress that comes from having one additional shameful episode exposed declines. However, this hypothesis is one which is independent of my present point, which rests on an assumption about how shame is affected by the comparative standing of the subject of shame and the standing of others in relation to whom this person experiences shame.

whether full transparency is a threat to authenticity, but, as I wrote, I only claim that the present argument is approximately sound.¹⁹

Is it impossible for people to have intimate relations in the global scenario? I believe not for a reason constructed in a different context and for a different purpose by Thomas Nagel. According to Nagel, there is a huge difference between everyone knowing that everyone has outrageous thoughts in private as well as kinky sex lives and that knowledge about each of us being out in the open, for example, by being broadcasted on the radio, posted on the web, or in a photograph on the front page of the newspaper, meaning that it is common knowledge in a sense stronger than that we all have it.²⁰ As Nagel (1998, p. 7) writes

one has to keep a firm grip on the fact that the social self that others present to us is not the whole of their personality either, and that this is not a form of deception, because it is meant to be understood by everyone. Everyone knows that there is much more going on than what enters the public domain, but the smooth functioning of that domain depends on a general nonacknowledgement of what everyone knows.

Nagel is referring here to the general knowledge that others have, say, objectionable fantasies despite their unobjectionable social self, but his point applies even to

¹⁹ To defend the claim that we have insufficient reason to embrace the strong connection view, it suffices that the present argument is only approximately sound. An argument is approximately sound, when one or more of its premises are false, but, in a sense which is hard to specify, is or are 'close to being true', e.g., premise 1 is approximately true, when full transparency can threaten authenticity even if it does not lead to shame, but rarely does so.

²⁰ '*p*' is not common knowledge between X and Y just because it is true that 'X knows that *p*' and true that 'Y knows that *p*'. Further conditions must be satisfied for something to be common knowledge in my sense, such as that 'X knows that Y knows that *p* and *vice versa*' and 'X signals to Y that in their interactions they are permitted to state, reason on the basis of etc. *p* and *vice versa*' and so on and so forth. I do not offer a definition of common knowledge here in the belief that the cases to which I appeal are taxonomically unproblematic.

specific and detailed knowledge of the whole of others' personalities—there is a very significant difference between a scenario in which everyone has detailed knowledge about everyone else's non-social selves but where this knowledge is not acknowledged, and a scenario where people have exactly the same knowledge and this knowledge is publicly acknowledged.

To support the claim made in the previous sentence, consider the case of a person with a facial disfigurement. This person knows that all of her interlocutors know that she is disfigured and both parties will know that the other party knows and so forth. This will go unacknowledged in most situations, however, precisely because the relevant social interaction is not an intimate one and if the person were to acknowledge to someone else that she is disfigured such that this fact can become a common topic of conversation between them, this might be a way of conveying that she considers their relation to be a fairly intimate one. The lesson to draw from this example is the following: even in the global scenario, where no one enjoys control privacy, it is not clear that you still have intimacy.²¹ Intimate relations would not be based on people conveying more information about their thoughts etc. to others, but by more such information being admitted as common knowledge, which one can converse about (or, even more specifically, converse about in a certain way).²²

²¹ Reiman (1976, pp. 33, 34; cf. Rössler 2005, p. 131) argues that access to personal information is neither necessary nor sufficient for intimacy, since sharing information without a context of caring, such as the professional relation that a client has to his psychoanalyst, is not intimate: 'What matters is who cares about [personal information about me] and to whom I care to reveal it' (Reiman 1976, p. 34). I only argue that access to personal information is not necessary for intimacy and, *pace* Reiman, it is possible to reveal information to someone who cares about one even if one does not have an intimate relationship with that person, perhaps because one simply passes on the information but is unwilling to accept it as common knowledge between oneself and the recipient.

²² Katharina Hadjimatheou objected that norms about admissible topics for conversation could not form the basis for intimate relations between parents and children and that stressed-out parents sometimes entertain thoughts or feelings, the

As my disfigurement example shows, this is not radically different from the social world as we know it, but we could easily imagine that, in the global scenario, norms regulating who can bring up which topics as topics for conversation change and, in particular, become more well-defined, more stringent, enforced with much greater tenacity and, thus, almost universally complied with. I am not conjecturing that, in fact, this is so. Also, I am not denying that in individual cases, where norms of conversation are violated, the ability of the victim of the norm violation to form intimate relations might be impeded.²³ Still, my claim is that we have some good reason to doubt that, generally speaking, the global scenario could not coexist with thriving relations of intimacy. At least the mere fact that, in our social world, intimacy is strongly correlated with giving one's interlocutor greater access to one's non-social self does not imply that intimacy could not thrive to an equal degree through other means, including means we already avail ourselves of today, in a social world where everyone is fully transparent to everyone.²⁴

Conclusion

publicity of which would threaten intimacy between them. I see considerable force in this challenge. One response would be to restrict the scope of my claim to intimacy between adults. Another response would be to concede that, while full transparency would change the nature of child-parent relationship, we romanticize children if we think that intimate child-adult relations could not survive full transparency.

²³ The same might be true of individual cases where privacy norms are respected, cf. (Lever 2012, 209).

²⁴ Rachels (1975, p. 329) contends that 'because our ability to control who has access to us, and knows what about us, allows us to maintain the variety of relationships with other people that we want to have, it is... one of the most important reasons why we value privacy'. The related claim that privacy is valuable for reasons with respect to maintaining the relevant variety of relationship is false if we can maintain the same variety of relationship through differentiating between people in terms of which pieces of personal information we accept as common knowledge. Note, incidentally, that Rachels wavers between thinking that, say, confiding is essential to friendship and thinking that confiding differentially to friends and non-friends is essential to friendship. Reiman (1976, p. 32) focuses on the latter claim, characterizing it as 'both compelling and hauntingly distasteful'.

Non-consensual brain-reading might be morally wrong for many different reasons. In this article, I have focused on reasons relating to privacy of the mind. I limited my concern to control privacy and to two values, which, arguably, control privacy might be thought to promote or respect: authenticity and intimacy. I have argued that even in an extreme scenario in which brain-reading technologies render our brains transparent to anyone who cares to look, these technologies may neither be qualitatively different from other mindreading techniques nor clash with the two values in question.

Intimacy might depend on people's privilege to allow personal information about them, which all of us possess individually, to be common information; that is, something that can be the topic of a conversation or common deliberation. Similarly, in a situation in which we are all transparent, that transparency also includes our embarrassing wishes, vulgar fantasies, and childish feelings and, accordingly, the technologically assisted gaze of others might be much less inhibiting than is presently the case.

What do these two neuroimaging-friendly conclusions about my global scenario imply with regard to our present local scenario, where present brain-scanning techniques are only used in very special contexts, by resourceful agents, for very specific purposes, and provide only limited information about the mental lives of individuals? In my view, not much by way of direct implication. Indirectly, however, we can learn that if we oppose certain present uses of brain-scanning techniques on grounds of intimacy and authenticity, our objections must be more specific than simply consisting of a blanket appeal to these two values. Indeed, we must explain how the situations in which we want to protect brain scanning techniques are different from the scenarios—local and global—in which I have argued neuroimaging-based

mindreading techniques are conceivably fully compatible with intimacy and authenticity.

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