

Does Memory Modification Threaten Our Authenticity?

Alexandre Erler

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Abstract One objection to enhancement technologies is that they might lead us to live inauthentic lives. Memory modification technologies (MMTs) raise this worry in a particularly acute manner. In this paper I describe four scenarios where the use of MMTs might be said to lead to an inauthentic life. I then undertake to justify that judgment. I review the main existing accounts of authenticity, and present my own version of what I call a “true self” account (intended as a complement, rather than a substitute, to existing accounts). I briefly describe current and prospective MMTs, distinguishing between memory *enhancement* and memory *editing*. Moving then to an assessment of the initial scenarios in the light of the accounts previously described, I argue that memory enhancement does not, by its very nature, raise serious concerns about authenticity. The main threat to authenticity posed by MMTs comes, I suggest, from memory editing. Rejecting as inadequate the worries about identity raised by the President’s Council on Bioethics in *Beyond Therapy*, I argue instead that memory editing can cause us to live an inauthentic life in two main ways: first, by threatening its truthfulness, and secondly, by interfering with our disposition to

respond in certain ways to some past events, when we have reasons to respond in such ways. This consideration allows us to justify the charge of inauthenticity in cases where existing accounts fail. It also gives us a significant moral reason not to use MMTs in ways that would lead to such an outcome.

Keywords Authenticity · Enhancement · Fitting attitudes · Identity · Memory modification · President’s council on bioethics

Introduction

One objection to the use of human enhancement technologies is that it might threaten our authenticity.¹ Memory modification technologies (MMTs for short) raise this worry in a particularly acute manner. In their much discussed report *Beyond Therapy*, the members of the President’s Council on Bioethics thus write that

[a]mong the larger falsehoods to which such practices [as memory modification] could lead us, few are more problematic than the extreme beliefs regarding the possibility—and impossibility—of human control. Erring on the one side, we might come to imagine ourselves as having more control over our memories and identities than we really do, believing that we can be authors and

A. Erler (✉)
Oxford Uehiro Centre for Practical Ethics,
University of Oxford,
Suite 8, Littlegate House, St Ebbes Street,
Oxford OX1 1PT, UK
e-mail: alexandre.erler@philosophy.ox.ac.uk

¹ See e.g. Elliott [11]; The President’s Council on Bioethics, [35], chap.5; Parens [27], pp.39–40.

editors of our memories while still remaining truly—and true to—ourselves [35, p. 230].

The authors are concerned that MMTs might induce in us a mistaken belief about the degree of control we have over our identities, i.e. the belief that we can take control of our memories while still preserving our identity. Let me note the particular way they phrase their concern: the suggestion is that “being the authors and editors of our memories” is incompatible with remaining true to ourselves. Given that authenticity is often identified with the idea of being “true to oneself”, the concern in this passage seems to be that controlling our memories thanks to MMTs will make us inauthentic.

What sort of cases might give rise to such a concern? Consider the following four scenarios:

1. *The Lady Macbeth case.* It is presented by the authors of *Beyond Therapy* themselves, in another passage where they suggest that MMTs might pose a threat to our “identity”:

But if enfeebled memory can cripple identity, selectively altered memory can distort it. Changing the content of our memories or altering their emotional tonalities, however desirable to alleviate guilty or painful consciousness, could subtly reshape who we are, at least to ourselves. With altered memories we might feel better about ourselves, but it is not clear that the better-feeling “we” remains the same as before. Lady Macbeth, cured of her guilty torment, would remain the murderess she was, but not the conscience-stricken being even she could not help but be [35, p. 212].

In this scenario, Lady Macbeth uses MMTs to escape the feelings of guilt she experiences after having spurred her husband to murder king Duncan. As the passage suggests, this could take two forms: she could remove the memory completely, or attenuate its emotional impact. Call the first alternative the *amnesiac*, and the latter the *carefree* Lady Macbeth. I shall consider both variants in a subsequent section.

2. *Elisabeth’s case.* During her high school years, Elisabeth was the black sheep of her class: the other girls did not want her in their clique. Until she moved to university her everyday experience was mostly one of social exclusion and even bullying. Fortunately, Liz’s life has taken a much

better turn since then: she now has a successful career, a wonderful family of her own, and is generally quite a happy person. Yet she resents the way her classmates have treated her (even though these feelings are not obsessive and do not impair her functioning), and does not wish to have anything to do with them in the absence of an apology on their part. Since none of them has ever volunteered such an apology, even when she hinted at the topic in her (negative) reply to their invitation at a class reunion, Liz now keeps her distance—for example, she never attends such reunions. A friend of Liz, Sonya, has endured similar mistreatments during high school. Yet thanks to her different native temperament, bad things tend to just “roll off her back”, and she bears no grudge to those who mistreated her. She goes to most class reunions, and is now on good terms with her former classmates, as if nothing bad had ever happened to her. On hearing Sonya and other friends speak of their high school years in much more positive terms than she can herself, Liz feels envious. She wishes she did not feel so strongly about these past offences. When she learns about the existence of MMTs, Liz decides to blunt the emotional impact of her memories of rejection and bullying. As a result, her past misfortunes no longer seem to her so bad as to warrant resentment towards her former classmates, and she finds herself willing to forgive them without expecting an apology anymore. She gets in touch with some of them on a social networking site, and for the first time is able to positively interact with them. The good moments she had as a teenager are no longer overshadowed by her memories of victimization, and Liz definitely feels that her use of MMTs has allowed her to enhance her overall well-being.

3. *Carl’s case.* For years, Carl has been subjected to serious physical and sexual abuse. As a result, he has become consumed by hatred towards mankind and has embraced a life of crime. After shooting a policeman during an armed robbery, Carl is arrested and sentenced to 30 years in prison. The psychiatrists who examine him conclude that even though he is not, strictly speaking, mentally ill, he would be less of a danger to society on his release if he were given

some form of treatment. Psychotherapy would be the traditional option, but they now have an alternative: erasing and replacing the traumatic memories that had fuelled his feelings of hatred, as well as the memories of his worst crimes, which had turned him into a hardened criminal. The doctors can expect such a method to produce the same results as therapy in a quicker and less costly manner. They thus offer Carl the option to “edit” his memories in exchange for parole. He accepts the deal.

4. *Solomon’s case.* Solomon is always on the lookout for ways of becoming more effective at his job as a journalist. He started using memory enhancing drugs as soon as they became available, and is very pleased with the accuracy of his enhanced memory capacity. Yet now he also finds that he has become unable to forget any personal failure, no matter how minor, that he gets to experience: the memories of them keep coming back to his mind, each time as vivid as before. Once a well-adjusted person with a high self-esteem, he is now struggling with feelings of low self-worth that seem completely alien to him. Although he continues using the enhancers because of the benefits he derives from them, Solomon is very annoyed by their effect on his own self-image.

My impression is that the agents in all of these scenarios end up living inauthentic lives after manipulating their memory. Lady Macbeth, Elisabeth, and Carl are also making inauthentic choices, even though these choices lead to a gain in well-being.

In what follows I will undertake to justify those verdicts. I shall begin by distinguishing three main ways of understanding authenticity, and will offer my own account, which relies on the idea that authenticity consists in somehow being faithful to your true self (a notion I will undertake to flesh out and defend against objections). After a brief review of existing and prospective MMTs, where I will distinguish between memory *enhancement* and memory *editing*, I shall consider the respective implications of the aforesaid accounts of authenticity for the four scenarios just described. I shall argue that they concur in declaring Solomon’s life inauthentic to some degree after he starts enhancing his memory, but will add that his case only involves contingent side effects and that memory enhancement does not, by its very nature, seem to warrant concerns about authenticity. The main threat to

our authenticity, I will suggest, comes from memory editing, as illustrated by scenarios 1 to 3 above. Rejecting as inadequate the worries about identity raised by the President’s Council on Bioethics, I will argue instead that memory editing can cause us to live an inauthentic life in two main ways. First, it can undermine the truthfulness of our lives. Secondly, even when it does not do so, it can still mean deliberately interfering with a disposition we possess to respond in certain ways to some past events, when we have reasons to respond in such ways. This consideration is left out by rival accounts of authenticity (even though these accounts do have sound points to make), which are therefore unable to support the charge of inauthenticity at least in the case of Liz. Yet I think it gives us a significant moral reason not to use MMTs in ways that would lead to such an outcome.

What is Authenticity?

Three Different Accounts

First, we need to get clear about what we mean exactly when we talk about authenticity or an authentic life. The term “authenticity” doesn’t have one single, universally accepted meaning, even among philosophers. Three main ways of understanding the notion can be found in the contemporary philosophical literature: first, the view of authenticity as wholeheartedness; secondly, existentialist accounts of authenticity; and finally, what I shall call “true self” accounts.

The view of authenticity as wholeheartedness is sometimes attributed to Harry Frankfurt,² even though as far I am aware he doesn’t use the term “authenticity” himself (and clearly doesn’t consider its implications for the use of enhancement technologies). On this view, authenticity consists in a second-order identification with one’s first-order desires, an identification that is “wholehearted” in the sense that it doesn’t involve any ambivalence at the second-order level (Frankfurt [13]; [14] pp. 91ff). On this account, the authentic agent is one who acts upon desires and preferences with which she wholeheartedly identifies. Choices and actions involving such wholehearted

² See e.g. Litton [21], p.66; Christman [2]; Cottingham [3], p.10.

identification will qualify as authentic choices and actions.³

Existentialist accounts of authenticity tend to identify it with honesty and autonomy in the choices one makes and the way one shapes one's life story, with taking full responsibility for such choices and avoiding bad faith (see e.g. Sartre [31], p.90; DeGrazia [7], p.112).⁴ In what follows I shall focus on DeGrazia's account as exemplar of an existentialist view. We might note that his conditions for authenticity are more demanding than those set by the account of authenticity as wholeheartedness. DeGrazia thus characterizes autonomous action in the following way:

A autonomously performs intentional action X iff (1) A does X because she prefers to do X, (2) A has this preference because she (at least dispositionally) identifies with and prefers to have it, and (3) this identification has not resulted primarily from influences that A would, on careful reflection, consider alienating [7, p.102].

We can see here that autonomy as DeGrazia understands it presupposes something like authenticity as wholeheartedness (conditions (1) and (2)). However, autonomy is itself a necessary, but not sufficient condition for authenticity in DeGrazia's sense: honesty is required as well.

Finally, true self accounts of authenticity understand it as the quality of being faithful to a "true" self that is to some extent *given* to us, rather than being solely the product of our own choices, even honest and autonomous ones (see e.g. Taylor [34], pp. 25–29; Elliott [12], pp. 49–52). The true self account that I find most promising understands authenticity as a virtue: the virtue of being faithful to one's true self, when doing so is intrinsically valuable. Conversely, I understand inauthenticity as the failure to be true to yourself when doing so would have been valuable, if done for the right reasons.⁵ On this account, someone

who, with sufficient constancy, remains true to himself when doing so is valuable will count as living an authentic life. By contrast, failing to do so when it would have been valuable will lead to an inauthentic life. Also, I will regard a person as making an authentic choice, or as acting authentically, if her choice or action involves staying true to herself when doing so is intrinsically valuable and praiseworthy. If she fails to remain true to herself when doing so would have been at least *prima facie* praiseworthy in her specific circumstances (again, if done for the right reasons), I will count her choice or action as inauthentic. It is not necessary to accept my own version of a true self account in all its details in order to agree with the points I shall make later about reasons to feel and react, and the risk that MMTs might be used in ways that disconnect us from them. However, for the purpose of our discussion, I believe that my account has the advantage of being more clearly articulated than other true self accounts, like Elliott's, that might lead to similar normative conclusions.

I acknowledge that the Frankfurtian and existentialist accounts do capture many of our uses of the notion of authenticity. My own account is meant to complement rather than supplant them. Some of the cases I have described, like that of Solomon, can be satisfactorily explained by these rival accounts. However, as we shall see, they have trouble explaining other cases of inauthenticity, such as Elisabeth's. Existentialists are also wrong to dismiss the idea of a pre-given "true self", as I will now try to show.

The "True Self"

A number of authors have thus rejected as implausible the idea that we have something like a true self, the features of which are at least partly independent of our choice (see e.g. DeGrazia [7], pp. 233–34; Levy [19], p. 73). I believe that such doubts are unwarranted, and that they usually depend on the assumption that such a self must be construed as an individual essence. If it were an essence, by definition it could not be changed on pain of bringing the relevant person's existence to an end (and presumably bringing a new, distinct individual into existence). But we need not take such a view of the true self. The notion, I think, is best understood by appeal to the idea of narrative identity. Narrative identity is usually contrasted with *numerical* identity. The former notion allows us to answer what Marya

³ Dworkin's ([10], p.25) view of authenticity as harmony between first and second-order desires is very similar to the view of authenticity as wholeheartedness, and my remarks about the latter will apply to the former as well.

⁴ I don't mean to suggest that these two authors hold exactly the same view of authenticity, but for the purposes of our discussion I will deal with them together. I shall assume that the Sartrean requirement to avoid bad faith is satisfied when DeGrazia's honesty condition is.

⁵ I am using "being true to yourself" and "being faithful to your true self" interchangeably.

Schechtman has called the characterization question: what is the set of characteristics that makes me the person I am, i.e. which actions, experiences, desires, values, character traits, etc. are “truly attributable” to me? Numerical identity, on the other hand, has to do with what Schechtman calls the reidentification question—what is it that makes me one and the same person at two different points in time [32, pp. 73–76]? This is the question traditional theories of personal identity are trying to answer, whether they appeal to continuity of immaterial substance, psychological continuity, etc.

The true self, as I propose to understand it, comprises the central features of that person’s narrative identity—central, in that they significantly shape the form of her life, including the way other people treat her. Such features include her personality traits; character traits, understood as dispositions to respond in certain ways to certain events, and see these as providing *reasons* to respond in such ways⁶; personal likes and dislikes (including for instance one’s sexual orientation, with regard to the example that I shall use in a moment); self-image; or moral and religious commitments.⁷ Some of these features are partly independent of our choice, yet it seems that all of those I have listed can change through time in a particular person, without threatening her numerical identity.

This view denies DeGrazia’s contention that the features of the kind just mentioned will only count as part of someone’s identity, or of her true self, if the person identifies with them (DeGrazia [6], pp. 37–38). Consider the following case:

1. *Oscar’s case.* Oscar is a 20 year-old gay man. He is unhappy with his sexual orientation, and has resolved to work on himself with a therapist who agreed to help “cure” him. However, 10 years later, after having tried various therapeutic techniques, Oscar still feels exclusively attracted to members of his own sex, and has been involved

in a series of affairs with other men, of which he feels deeply ashamed. Fortunately for Oscar, his therapist then offers him to participate in the trials for a new chemical treatment destined to remove homosexual inclinations. The treatment works, and Oscar is delighted to have at last found a “cure” for his “condition”.

DeGrazia’s view implies that being gay is not part of Oscar’s true self even during the 10 years he spends unsuccessfully fighting his inclinations (and feeling very bad about it), since Oscar doesn’t endorse these inclinations. But surely this is implausible. Whether or not someone is gay has to do with whether or not the person feels sexually attracted to members of his own sex, not with his identifying (or not) with his sexual preferences. And if his gayness makes a significant difference to the person’s life, as it clearly does in the case of Oscar until he undergoes treatment, then arguably it is part of the person’s true self, even if he himself denies that it is. It is thus more plausible to think that Oscar *changes* his true self, which included gayness, at the end of these 10 years, rather than holding that gayness was never part of Oscar’s identity.

For the purpose of this paper, we can distinguish two different senses of the phrase “being true to oneself”: 1) accurately presenting key features of your narrative identity to others rather than pretending to be different from who you really are; and 2) refusing to change some of those features in circumstances where it might be tempting to do so. If Oscar tries to deceive the people around him about his sexual preferences, he will fail to be true to himself in the first sense. By undergoing treatment, he fails to be true to himself in the second sense—though we might debate whether or not his doing so is of normative significance. Failing to be true to oneself in this second sense need not be wrong, even *prima facie*; it is not the same as being inauthentic.

Finally, it follows from what I have said that the traits and dispositions that will count as part of someone’s true self are *actual*, and not merely *possible* ones. A person’s true self is not the same as her *ideal* self. For instance, suppose that after having manifested an irascible disposition for years, I finally succeed, by working hard on myself, in learning to manage my anger and developing a more equanimous frame of mind. It then seems more plausible to say that I have changed some aspect of my true self for the better, rather than saying

⁶ These dispositions need not necessarily be robust, cross-situational ones. We should take into account the recent challenge to the idea of robust character traits based on findings from social psychology: see e.g. Doris [9] and Harman [18].

⁷ The list just given seems at least relevant to Western culture. I am willing to concede that exactly which traits are to count as central might to some extent be culturally dependent: different cultures might have different views on this issue, making different traits decisive in shaping their members’ lives. This point is raised by Rorty and Wong [30], and I largely agree with the detailed account of identity that they offer.

that I have finally succeeded in being faithful to my (equanimous) true self, and have become more authentic. Of course, the fact that I regard equanimity as an ideal to be striven for might make a significant difference to the shape my life takes, in which case it will meet my condition for being a part of my true self. But even then, it is my *commitment to becoming more equanimous* that will count as part of my identity, not the actual trait of equanimity itself, as long as I have not fully succeeded in acquiring it.

Having outlined the three categories of views on authenticity that will guide my discussion of the ethics of memory modification, I will now say a few words about MMTs.

Memory Modification Technologies: A Brief Overview

New technologies that allow us to intervene on our memory in various ways are increasingly being developed. Following Matthew Liao and Anders Sandberg [20], we can distinguish two forms of memory modification: memory *enhancement*, and memory *editing*.

Memory Enhancement

Enhancements, as I understand them, are interventions that make a person's life go better in one particular respect. Cognitive enhancement, for instance, makes the life of the person who uses it go better in at least one respect, namely, insofar as her cognitive capacities are rendered more effective than they would otherwise be. That doesn't mean, however, that something which is properly called an enhancement must necessarily make the enhanced person's life better *overall*, i.e. when all relevant considerations have been taken into account. Solomon's self-esteem problems, induced by his enhanced memory, might for instance damage his career and general well-being to the point that his life would be made overall worse than before.

In the literature on the topic, one often finds the further assumption that for something to qualify as an enhancement, it has to improve upon normal functioning; otherwise it is a case of treatment, not enhancement. I personally find it simpler to just speak of enhancements whenever we are dealing with an intervention that makes someone's life go better in some respect, but one might want to

remember that some enhancements in my sense will fall on the "treatment" side of the dichotomy, while others will fall on the side of "enhancement" in the strict sense.

Memory enhancement is not a new phenomenon: the use of mnemonic devices—such as the so-called method of *loci*—dates back at least to classical antiquity (see e.g. Yates [37]). However, in our pharmacological age, a variety of memory enhancer drugs have been developed. Some such drugs appear to enhance long-term memory, others, short-term memory. A small study thus suggested that airline pilots using the Alzheimer's drug Aricept (donepezil) showed an improvement in short-term memory [15]; Modafinil has also been shown to enhance working memory in healthy test subjects [1, p. 317]. Another study found that histone deacetylase inhibitors, used in clinical trials to treat cancer, could boost long-term memory [36]. Finally, there is evidence that the salience of an emotionally loaded memory can be enhanced [20, pp.87–8]. In the future we might see the appearance of more spectacular forms of memory enhancement technologies such as implantable brain chips, which might improve either short-term or long-term memory capacity [23].

Memory Editing

By memory editing, I shall understand all methods of modifying memory in a desirable way that do not involve enhancing it—at least not directly. I do not deny that there might be cases where memory editing would result in memory enhancement: for instance, erasing an obsessive memory from someone's mind might improve her general well-being and thereby the effectiveness of her cognitive functioning, including her memory capacity. But even in such cases memory editing can still be distinguished from memory enhancement, which it causes.

One form of memory editing consists in reducing the vividness of a memory. This aim can be achieved by using so-called "beta-blocker" drugs. For instance, taking the beta-blocker propranolol shortly after a traumatic event has been shown to reduce the intensity of the memory and the risk of post-traumatic stress disorder ([20], p.88; see also [35], p.224). It is even possible to induce false memories in someone, a process made easier by the fact that our memories are already to a large extent reconstructions rather than faithful copies of past experiences ([20], p.88; see also

Loftus [22]). Recent research also suggests that it might soon become possible to selectively erase undesired memories from our minds [17].

Let us now consider whether or not these technologies raise significant concerns about authenticity, by analyzing my four memory modification scenarios from the perspective of the three accounts of authenticity distinguished above.

MMTs and Authenticity

Authenticity and Memory Enhancement

Introduction

Memory enhancement seems to have many benefits to offer. This is because, in many cases at least, it is preferable to be able to recall the things we want to recall than to be unable to do so. Scholarship, philosophical reflection, and decision-making in a range of different fields fundamentally depend on that very ability. True, the example of Solomon shows that memory enhancers could have undesirable side effects that would notably pose a problem of inauthenticity. All three accounts of authenticity presented above imply that Solomon's life becomes inauthentic in one respect once he starts using memory enhancers, though the reasons they provide for such a verdict will not be exactly the same. On the Frankfurtian and existentialist accounts, the problem is that Solomon does not endorse his resulting feelings of low self-worth (feelings that are clearly of significance for his life afterwards). The account that I have defended will yield a somewhat different justification for speaking of an inauthentic life: the memory enhancers used by Solomon prevent him from remaining true to himself when doing so would have been valuable. To flesh this out, I need to introduce the idea of reasons to feel and react, an idea that will also prove crucial for my discussion of memory editing and authenticity.

Reasons to Feel and React

Many of our emotions and states of mind, but also many of the attitudes we take towards others and ourselves, such as self-esteem, seem to admit of *reasons*. These reasons make the relevant emotions and attitudes, and the actions they elicit, appropriate or inappropriate, reasonable or unreasonable. Philoso-

phers have thus variously spoken of “appropriate emotions” (see e.g. Mulligan [25], though the idea goes back at least to Aristotle); “fitting attitudes” (e.g. Rabinowicz and Rønnow-Rasmussen [28]); or of reasons to feel and to act (e.g. Skorupski [33], pp.26ff). Justin D’Arms and Daniel Jacobson have pointed out a complication regarding the idea of appropriate emotions [4]: namely, a certain emotion might sometimes be appropriate, or fitting, in circumstances C, even though what we have most reason to feel, all things considered, in such circumstances, is not that emotion but a different one. For instance, it might be imprudent to feel amusement at a joke one has just recollected, because, say, one can expect this to lead to an uncontrollable bout of laughter; and laughter would be perceived as offensive in the circumstances—say, at a funeral. The joke in question might nevertheless be genuinely amusing, yet all things considered, one has most reason not to feel amused by it. This issue will need to be taken into account when we discuss the cases of Carl and Liz.

Some of our reasons to feel and react are moral ones. If someone you loved has just died, this gives you a reason to feel grief and to respond to this situation by mourning. If a friend has betrayed you, you have a reason to feel resentful. Others are non-moral, such as the reason to laugh at a joke that is funny. A borderline case is self-esteem. Following Rebecca Roache, we can concisely define self-esteem as a global estimation of one's own worth (Roache [29], p.74). There seem to be reasons for self-esteem, and these are provided by the qualities and achievements of the agent that *actually* justify her in feeling proud about them, independently of what she herself thinks. A young person might for instance have great athletic abilities, and these would give her a reason to have quite a high self-esteem. Yet this reason might still be causally ineffective if for instance her parents had impressed upon her the idea that athletic achievements are despicable.

I would also like to suggest that we should make room for a degree of pluralism about the type of responses to life events that are to count as reasonable. True, in some cases, only one particular way of responding to the relevant situation might be reasonable: in the case of losing a loved one, for example, grief seems to be the only reasonable response. However, consider again the case of Elizabeth. I am tempted to say that both Liz's initial resentful feelings and unwillingness to

forgive, and Sonya's more easy-going attitude, are reasonable responses in their respective situations. Liz reacts the way most of us, I presume, would react in such circumstances, and her reaction is a perfectly reasonable one: her classmates caused her much gratuitous suffering but none of them appear in the least sorry for what they did. Sonya's response is a much less common one. Being naturally more thick-skinned than Liz, the mistreatment she experienced did not affect her as deeply, and as a consequence she hardly feels any resentment at all towards the girls in her class. What they did was no big deal, she thinks; people change with time, and we should thus move on and not dwell on the past. Calling Sonya's response unreasonable would seem unfair: surely it is permissible for her to show such magnanimity, and some would even argue that she deserves to be praised as a saintly person. However, I would resist the claim that Sonya's affective response to victimization is objectively preferable to that of Liz, and that unconditionally forgiving such wrongs must be superior, from a moral perspective, to withholding forgiveness. One could for instance retort, plausibly enough, that Liz's greater sensitivity to the wrongs she has experienced has given her a keener sense of justice and made her a more self-respecting person than Sonya.

I shall therefore assume that Liz and Sonya's emotional responses to their past experiences are both equally reasonable. As long as we do not take these responses into account, the belief that those who bullied them are worth forgiving unconditionally, and the belief that they are not, will also count as equally reasonable, and so will the decisions to unconditionally forgive, and not to do so. However, I want to add that Liz and Sonya's respective emotional responses in turn make different courses of action *prima facie* appropriate for each of them: the appropriate thing to do for Liz is to withhold forgiveness in the absence of an apology, whereas for Sonya it is to unconditionally forgive her bullies, at least *prima facie*. This still leaves open the question of what they have most reason to do, all things considered. I will return to Liz's case later on.

Memory Enhancement and Authenticity, Continued

To come back now to Solomon: I would say that he ends up living a life that is to some extent inauthentic

insofar as by enhancing his memory, he (unwittingly) interferes with one key aspect of his identity. Namely, he causes his level of self-esteem to undergo a sharp drop, whereas (by hypothesis) Solomon would not be feeling this way about himself had he not taken the memory enhancers. And this is a bad thing insofar as, I am assuming, Solomon has no reason to have low self-esteem—it is not the case that having started to enhance his memory, he performs a series of vile actions that would warrant a very negative re-evaluation of his own worth as an individual. This explanation is different from the one given by the Frankfurtian and existentialist accounts, but I think these explanations are compatible and that they complement each other well.

Yet at the normative level, all that Solomon's case really implies is that we should preferably choose, or develop, memory enhancers that do not have such side effects. And even in cases where memory enhancement made one's life inauthentic in some respect, this consideration might still be outweighed by the benefits derived: suppose that Solomon were able to give precious evidence at an international criminal trial about the things he had witnessed in a country ravaged by civil war, evidence he could not have given had he not enhanced his memory. A few self-esteem problems that could be dealt with through counseling or self-help might be an acceptable price to pay for such a benefit. Also, even when memory enhancement brought to mind seriously disruptive memories, it might still be possible—in the future at least—to remedy this problem by combining the enhancement with selective memory editing. Because of this, I am not persuaded that the risk of disruptive memories, and the associated risk of inauthenticity, is a serious problem for memory enhancement technologies.

Some authors have argued that self-deception, which sometimes depends on having inaccurate memories, is actually a quasi-universal practice without which many people would find it impossible to feel good about themselves (see e.g. Nyberg [26], pp.86ff). This surely deserves to be taken into consideration, yet not everyone appears unable to take an honest look at themselves and their past. And even if those able to do so happen to be a minority, they at least could still benefit from memory enhancement. Other people might perhaps increase their ability to confront reality by working with a therapist before undergoing long-term memory enhancement. And those who could not

manage to do so might still want to use memory enhancement on a short-term basis—though they might also, for prudential reasons, prefer to stay away from its radical forms.

Memory enhancement technologies do not necessarily threaten our authenticity. Given their various potential benefits, we have strong reasons to want to use them provided that they are reasonably safe: e.g. they could promote self-cultivation, or moral improvement, given that a better memory would likely mean a more accurate picture of ourselves and of others, and a greater ability to learn from our past mistakes. That is not to say that current memory enhancers do not have their limitations and drawbacks (for evidence of such possible drawbacks, see e.g. De Jongh et al. [5], pp.769–71). Yet since such drawbacks, are only a contingent fact about memory enhancers, I will not deal with them any further here. Indeed, I wish to focus on the ethical implications of the safest and most attractive MMTs we can hope to have available in the future.⁸

Authenticity and Memory Editing

Concerns About Identity

The issue of authenticity mostly arises in relation to memory editing.⁹ It is in this context that the President’s Council on Bioethics raises it, with the Lady Macbeth case, as well as in other passages like the following:

By “rewriting” memories pharmacologically we might succeed in easing real suffering at the risk of falsifying our perception of the world and undermining our true identity [35, p.227].

⁸ De Jongh et al. [5], as well as Glannon [16], pp.48–49, also suggest that undesirable effects on cognition might unavoidably accompany a superior memory, rather than simply being tied to currently available enhancers. Yet the existence of people like Mozart, or Sukarno, Indonesia’s first president, suggests that it is possible to have exceptional powers of memory without having to suffer serious drawbacks because of it. There might be a degree beyond which the costs of memory enhancement become too high, but it would still seem to leave room for quite a large amount of enhancement, including via pharmacological means.

⁹ Which also raises a number of other ethical issues, such as the risk that important information might get erased from people’s minds (e.g. preventing witnesses from giving accurate testimony about some traumatic event in a trial). I will not, however, consider those other issues here.

A difficulty with such passages, as DeGrazia [7, p.232] has pointed out, is that they do not make it clear which sense of identity, numerical or narrative, is being used. If the former, the claim that Lady Macbeth would no longer be the same person once she had made herself forget her role in the murder of Duncan becomes implausible: surely she would not thereby cease to exist and be replaced by a distinct individual. We don’t usually suppose that we cease to exist after we have forgotten some particular fact, no matter how important. Let us then assume that it is in fact narrative identity that the authors have in mind in the passages quoted before. The argument would then be that by erasing her memory of the murder, Lady Macbeth would re-shape her narrative identity, and this would be wrong because inauthentic. Yet it is unclear that even a fundamental change in a person’s narrative identity constitutes a problem in itself. Clearly, changing oneself, even radically, isn’t intrinsically wrong. On the contrary, it can sometimes be virtuous, as in the case of an individual steeped in moral corruption who manages to significantly reform himself.

Truthfulness

The last passage quoted above suggests a more plausible objection. Perhaps what is wrong with people like Carl or the amnesiac Lady Macbeth is that they change themselves in a way that distorts their perception of the world and prevents them from “living truthfully” [35, p.233]; this is what makes them inauthentic. Such a line of argument will be welcomed by existentialists. DeGrazia, for instance, would concur that these two agents act inauthentically, as their self-creation projects involve deceiving themselves. Erasing her memory of the crime leads Lady Macbeth to falsely believe that she has had no part in the murder of Duncan. Similarly, Carl ends up falsely believing that hasn’t committed any crimes, and also—say—that he had a childhood without problems.¹⁰ The existentialist explanation is persuasive in these two cases.

¹⁰ Of course, memory erasure raises a technical issue: it seems difficult to ensure that one will not, sooner or later, be exposed to the information that one has made oneself forget. But let us assume for the sake of argument that Lady Macbeth and Carl go on living their lives in environments where they are sheltered from such exposure.

By contrast, it is not clear that the Frankfurtian account can justify describing these two agents as making inauthentic choices (and living inauthentic lives afterwards), as long as we assume that they wholeheartedly endorse their desire to deceive themselves for their own good. I don't want to claim that the Frankfurtian account is just plain mistaken here. It does seem plausible to say that the choices made by Carl and Lady Macbeth are indeed authentic in one sense—namely, these choices are truly their own: they haven't been pressured or manipulated into making them, and are not in two minds about them. As Erik Parens has suggested [27], authenticity is a notion with a plurality of legitimate understandings. What I do want to claim is that the Frankfurtian account does not tell us the whole truth about the matter. There is an important sense in which the choices made by these agents, and their lives afterwards, are indeed inauthentic. To capture this, we need to appeal to the existentialist account.

Nevertheless, the demands of authenticity need not always override any competing considerations. E.g. if his traumatic memories of abuse were causing him a lot of suffering that neither psychotherapy nor propranolol could be expected to sufficiently alleviate, erasing the memories might be morally permissible for Carl. More generally, it might be appropriate to use memory editing to relieve unnecessary suffering, even if this led some people to live less truthfully than before. In such cases, the fitting emotions and what the agents have most reason to feel would come apart. In the case of Lady Macbeth, however, we might say that her painful feelings of guilt do not exempt her from the duty to live truthfully. She is no innocent victim, and her guilt feelings are a fitting response to the crime she has helped commit. The only ethically acceptable way out of her suffering would be for her to repent, and maybe turn herself in and face the punishment that would follow. As for Carl, he at least has a reason (if not a duty, depending on how exactly we construe his case) not to erase the memories of his past crimes. There is something seriously disturbing about a murderer who lives his life believing that he has never done much harm to anyone. Also, it is plausible to think that Carl owes it to his victim to remember that he has shot him dead.

Now what about the carefree Lady Macbeth, who doesn't remove the memory of her crime but merely blunts its emotional impact with the help of propranolol? It is less clear that the existentialist account can justify describing

her choice, and her life afterwards, as inauthentic. (The Frankfurtian account will clearly not support that verdict, for the same reasons given before.) Suppose her choice met DeGrazia's conditions for autonomy. Would it still be somehow dishonest? There is no reason to think that it must involve deceiving either herself or others about some non-moral fact.¹¹ This suggests that for DeGrazia, there are no grounds for thinking that the carefree Lady Macbeth made an inauthentic choice, and that this choice leads her to live an inauthentic life, if her choice to use propranolol meets the honesty and autonomy conditions. I believe this is mistaken. Once again, I agree that she makes a decision that is authentic in one sense (insofar as it meets the Frankfurtian criterion for authenticity), but I would maintain that there is another, important sense in which her decision is inauthentic, and that this deserves an explanation.

Maybe, however, existentialists could still retain the verdict of inauthenticity by arguing that the carefree Lady Macbeth is guilty of self-deception of a specifically *moral* kind. I am not aware that any author has presented such an argument, and it would not be available to Sartreans, given that it seems to involve a commitment to the existence of objective moral truths. But we can see how the argument might go. The traditional philosophical understanding of self-deception implies that the self-deceiver starts with the true belief that $\sim p$, and then intentionally gets himself to believe that p ; or the other way round (see e.g. Deweese-Boyd [8] and Mele [24], p.92). In the case of the carefree Lady Macbeth, the existentialist would have to assume that things work as follows: first, Lady Macbeth truly believes that she has done something terribly wrong, as evidenced by her feelings of guilt. Secondly, by editing her memory, she brings herself to falsely believe that what she did was not so terribly wrong, as evidenced by her newfound peace of mind. From then on, her life is inauthentic as it relies on self-deception about a significant moral fact.

A Problem for Rival Accounts: Elisabeth's Case

Such a move would have the disadvantage of relying on controversial metaethical assumptions that the

¹¹ Of course, Lady Macbeth might lie to other people about her involvement in the murder of Duncan, but the question here is whether the *act itself of blunting the vividness of her memory* would involve deceiving herself or others.

existentialist would need to further defend. Suppose, however, that it could successfully explain why the carefree Lady Macbeth's life is inauthentic. It would nevertheless not work in the case of Elisabeth. Indeed, there is no plausible sense in which Liz is deceiving herself. Following the same line as before, one could argue that Liz starts with the true belief that those who victimized her do not deserve to be forgiven unconditionally, and that by editing her memory, she deliberately leads herself to acquire the false belief that they deserve to be, making this another case of moral self-deception. But this would contradict my assumption that there is a plurality of reasonable responses in such a case, and that both of these beliefs about the appropriateness of unconditionally forgiving are equally reasonable. If my assumption is correct, this appeal to moral self-deception cannot explain Liz's case.

It thus seems that the existentialist and Frankfurtian accounts must deny that Liz's choice and the life it leads to are inauthentic in any way. Indeed we are assuming that Liz's decision to edit her memory is both honest and autonomous, and that she wholeheartedly endorses her desire to increase her general level of well-being. By contrast, I believe there is an important sense in which her choice is inauthentic. I will now try to explain why.

A Solution

I submit that by editing her memory, Liz fails to remain true to herself in circumstances when doing so would have been praiseworthy: she abandons an important part of her narrative identity, namely her natural disposition to withhold forgiveness of mistreatments that she had experienced as very serious. Her decision is inauthentic, not because it leads to an inappropriate response to mistreatments of that sort (we are assuming that Sonya's response is not inappropriate), but because she thereby makes herself react differently from the way *she* would otherwise react, and which we are assuming would also be reasonable.

Some clarifications are needed here. First, the relevant counterfactual in this case is not e.g. how Liz would react if she fitted her model of the ideal human being, for the reasons given before: it is Liz's *actual* traits and dispositions that define her true self before she edits her memory, not those she wishes she had. Secondly, even though we cannot say that it is inappropriate to unconditionally forgive people who have mistreated you in this manner, it is correct to say that unconditional

forgiveness is not what Liz's individual nature or subjectivity makes it appropriate for her to do. I want to say that her natural affective response gives her a reason to withhold forgiveness, and also, given the value of authenticity, a related reason not to edit her memory. I don't necessarily wish to claim that this is also what Liz has *most reason* to do. Given that a possible gain in well-being is at stake for her, we may debate whether the demands of authenticity are decisive in her case, or whether they are outweighed by reasons of self-interest.

I would suggest, however, that we ought to seriously consider the former possibility. Indeed, I am not fully convinced that considerations of well-being will necessarily tip the balance of reasons in favour of memory editing. No one else need be harmed if Liz chooses to remain true to herself and, as a result, does not forgive her offenders. Let us assume that whether or not Liz has forgiven them is no concern of theirs, and that Liz has no interest in retaliation. We should also note that there seem to be ways for her to promote her well-being without interfering with her memories. For instance, rather than wishing she didn't have such unpleasant memories, she could try and give them a new, more positive meaning, seeing herself as a "survivor" who managed to overcome great hardships, and enjoying the contrast between her happy present situation and her good future prospects on the one hand, and the painful times of her teenage years on the other. It is thus not clear that memory editing must make a significant difference when it comes to promoting Liz's well-being.

Liz's case points to a broader concern about technologies like MMTs: the concern that they might be used by people to change the reasonable affective responses they have to certain events, to replace them by other responses, for reasons that are less than compelling. For instance, the latter responses—even though they might be reasonable as well—might simply happen to be more in keeping with the social *ethos*, or they might unjustifiably be presented as the only ones compatible with a happy life. By editing their memory, highly sensitive people like Liz might bring themselves to respond to life's events as if they were thick-skinned and easy-going. This can be presented as a worry about reducing human diversity, but it can also be understood as a threat to our authenticity. Using MMTs in such ways would prevent people from remaining true to themselves when doing so would be valuable. We might want to say to Liz: you are fully entitled to

feeling the way you feel about what your bullies did to you, and your particular sensitivity is valuable and worthy of respect. And even though Sonya's sensitivity might also be valuable in a different way, there is no good reason for you to want to be like her.

Let me make it clear that the concern I have put forward is not one about “artificial” vs. “natural” means of enhancing well-being, even though the debate about authenticity is sometimes framed in those terms. My remarks can equally be applied to ways of changing our emotional responses that do not involve the use of technology or pharmacology. Suppose for instance that Liz could blunt the vividness of her memories in exactly the same way by repeating positive mantras every day. If we assume that this method worked by directly (though gradually) blunting the emotional impact of her memories, without first appealing to her rational capacities and changing some of her beliefs, then all of my remarks about memory editing would still hold.

I would explain the inauthenticity of the carefree Lady Macbeth along the same lines as Liz's. By blunting the vividness of her painful memory, Lady Macbeth deliberately interferes with her disposition to respond to the reason she has to feel guilty, a disposition that is an important part of her identity and that she *should* exercise. Had she declined to edit her memory for the right reasons (e.g. because she didn't want to escape from what she recognized as justified feelings of guilt), she would have deserved some measure of praise. Her choice to use propranolol is therefore an inauthentic one on my account. And if we assume that its effects last for a sufficiently long period of time, her life as a whole will count as inauthentic, as she will then remain disconnected from the reasons she has to feel guilty, reasons to which she would have responded had she not blunted the emotional impact of her memories of the deed.

This might well be what the authors of *Beyond Therapy* were getting at in their worries about “undermining our true identity”, but if so their phrasing is much too vague. They also write that “[a]ltering the formation of emotionally powerful memories risks... falsifying our perception and understanding of the world. It risks making shameful acts seem less shameful, or terrible acts less terrible, than they really are” [35, p.228]. And indeed, part of what is wrong with the carefree Lady Macbeth is that she is unable to see her past crime in all its badness, and to respond by

feeling guilt. The inauthenticity issue, however, is a slightly different one. Suppose Lady Macbeth was just a cold-blooded assassin, who felt no guilt whatsoever about the murder of Duncan. Clearly her perception of her own deed would be inappropriate and blameworthy, but I assume we wouldn't call her inauthentic—we would just describe her as callous. What makes the epithet “inauthentic” applicable to the memory-editing Lady Macbeth is our assumption that she *would* have experienced guilt had she not chosen to edit her memory, together with our belief that it is blameworthy to prevent yourself from experiencing guilt in such circumstances.

Implications of the Different Accounts for Scenarios 1–4: A Comparison

Let us assume that with the exception of Solomon, all agents in scenarios 1 to 4 meet DeGrazia's conditions for autonomy (see “[Three Different Accounts](#)”), and that they wholeheartedly endorse their choices and the preferences that guided them. Now let us ask: do the agents in these four scenarios end up living inauthentic lives as a consequence of modifying their memory? In a schematic form, here is a recapitulation of the answers provided to the question by, respectively, the account of authenticity as wholeheartedness, the existentialist account, and my own “true self” account (the four scenarios yield five different cases):

	Authenticity as wholeheartedness	Existentialist account	My own account
Amnesiac	No	Yes	Yes
Lady Macbeth	No	?	Yes
Carefree Lady Macbeth	No	No	Yes
Elisabeth	No	Yes	Yes
Carl	No	Yes	Yes
Solomon	Yes	Yes	Yes

The very same answers will apply to the question whether the agents make an inauthentic choice when deciding to manipulate their memory—except in the case of Solomon, whose choice will presumably qualify as authentic on all three accounts. By hypothesis, he wholeheartedly identifies with the first-order preferences that guide it, such as his desire to become more effective at doing his job. His choice is both honest and autonomous—even though he lacks relevant information about the effects of the enhancers when he starts taking them, he keeps using

them even after he has learned about those effects. Finally, by choosing to enhance his memory, he is being true to his commitment to self-improvement, which is worthy of praise. The subsequent inauthenticity of Solomon's life is not a matter of his having made an inauthentic choice, but it solely results from the unexpected side effects of the memory enhancers.

Regarding the memory editing scenarios, my own account is the only one that can uphold the charge of inauthenticity in all four cases. Since I find quite plausible the intuition that these agents are in an important sense making inauthentic choices and living inauthentic lives, I think this shows that my account has a useful role to play in assessing those cases. Again, I see it as a complement rather than a substitute to rival accounts. The verdicts yielded by these accounts are not incorrect, as they do capture other, legitimate uses of the notion of authenticity than my account does. What is incorrect, however, is to claim that these rival accounts tell us everything that needs to be said about the authenticity of the agents in my examples.

Intrinsic vs. Instrumental Value of Authenticity

Finally, let me point out that my criticism of such possible uses of memory editing isn't utilitarian in nature, even though it is important to note the benefits that authenticity can bring with regard to human well-being. Unconditionally forgiving her former tormentors after she has edited her memory might for instance extinguish the motivation Liz would otherwise have had to join a campaign against bullying or against other forms of victimization, to which she could have made a significant contribution. Also, if more victims of such acts were willing to unconditionally forgive their tormentors, one possible deterrent might be lost. This shows that authentic decisions can sometimes be of instrumental value, yet I don't think we need to make such assumptions about the consequences of Elisabeth's decision in order to criticize it as inauthentic. Also, in Carl's case, utilitarians should presumably embrace memory editing without any hesitation, since for them memory is only valuable instrumentally. By contrast, I would argue that there is something intrinsically valuable about remembering at least roughly correctly such important past experiences, and living one's life in accordance with the knowledge provided by such memories. True, this value will have to be weighed

against the possible negative value of the foreseeable consequences of such a state, and the latter might sometimes outweigh the former. As I have said, it might be permissible for Carl to erase his traumatic memories of abuse if this were his only means of escaping a significant amount of unnecessary suffering. Nevertheless, the value of accurate memories and of a life based on them should be acknowledged, even if it isn't always decisive. It would also justify setting an order of priority among the possible ways of dealing with problems such as Carl's experience of childhood abuse. Carl would have a reason to try and do so via therapy and counseling, even if it proved more arduous, than via memory editing. Were he to act on that reason, he would deserve some degree of praise for his authentic choice. And his doctors should encourage him to do so, though in the end the choice should probably be left up to him.

Conclusion

MMTs can pose a threat to authenticity. Both memory enhancement and memory editing can be used in ways that lead to a life which is in an important sense inauthentic, as in cases 1–4. Memory enhancement, however, does not seem by its very nature to raise problems about authenticity. Such problems would rather be linked to its possible side effects. Given that these side effects are merely contingent ones, and that memory enhancers hold much promise when it comes to promoting our well-being or pursuing other goods such as knowledge or practical wisdom, we have strong reasons to develop, and use, enhancers that would not have such side effects (or not too serious ones).

Memory editing, on the other hand, poses a threat to authenticity that is not merely related to unintended side effects. First, as existentialists would claim, it is inauthentic to edit our memories when doing so involves deceiving ourselves, the way Carl and the amnesiac Lady Macbeth do. Secondly, memory editing could be used by some people to inauthentically induce in themselves certain emotions, states of mind (such as well-being) and attitudes (such as self-esteem), by tinkering with their disposition to respond in certain ways to certain life events, when they do have reasons to respond in such ways.

It doesn't follow that we have a moral duty to forfeit memory editing every time this would be the

authentic choice to make. Claiming that survivors of traumatic events have such a duty would seem excessively harsh. But it remains that in every such case we will still have a moral *reason*, grounded in the value of authenticity, not to edit our memory. Whether acting on that reason is obligatory or not will depend on the strength of the competing reasons, grounded for instance in the agent's self-interest, speaking against the authentic course of action. Finally, considerations of authenticity clearly do not justify a ban on memory editing procedures (and even less so on memory enhancers). They do, however, suggest the inadequacy of a completely liberal policy endorsing the use of such procedures for any purpose except when they can be expected to cause positive harm to someone. The considerations I have adduced might provide grounds for doctors to refuse to meet, or at least try to discourage requests for memory editing for "cosmetic" purposes, such as Liz's.

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