

Cognitive Diminishments and Crime Prevention

“Too Smart for the Rest of Us”?

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Cognitive *diminishments* and crime prevention: “Too smart for the rest of us”?

Abstract

In this paper, I discuss whether it is ever morally permissible to diminish the cognitive abilities or capacities of some cognitively gifted offenders whose ability to commit their crimes successfully relies on them possessing these abilities or capacities. I suggest that, given such cognitive diminishments may prevent such offenders from re-offending and causing others considerable harm, this provides us with at least one good moral reason in favour of employing them. After setting out more clearly what cognitive diminishment may consist of, I then critically discuss variations of four plausible arguments against a proposal of using them on cognitive gifted offenders related to autonomy, harm, narrative identity, and a right to mental self-determination. I argue that none of these concerns should have us reject the use of cognitive diminishments.

1. Introduction

Some crimes require offenders to be cognitively well-endowed to be able commit them successfully. For example, the hacker Hamza Bendelladj and his accomplice Aleksandr Panin could not have engaged in their cybercrimes had it not been for their advanced computer expertise, making them capable of creating the so-called “SpyEye” malware. This malware, *inter alia*, allowed them (and others to whom they sold it) to steal funds directly from their victims’ bank accounts [1]. Similarly, but on a more general level, businessmen engaging in multi-billion-dollar financial fraud rely on their ability to understand and manipulate complex financial systems to commit their crimes, and someone intending to construct a bomb for terrorist purposes must have the cognitive features available to acquire and utilize a knowledge of chemistry and engineering. One way in which crimes that rely on the offender being cognitively well-endowed may be

prevented in the not-too-distant future would be to employ so-called neurointerventions to reduce the relevant offenders' cognitive proficiency to a level at which they would no longer be able to successfully commit these types of crime. The question on which this paper will focus is whether such cognitive diminishments (CDs) can be ethically permissible to mandate to offenders as a means of preventing re-offending if these interventions are otherwise safe and effective.¹

In the emerging literature on the ethics of mandating neurointerventions to offenders, considerable efforts have been put into offering arguments against any such use, while others have argued that at least some type of neurointerventions (e.g. those enhancing offenders' cognitive control over aggressive or sexual impulses) can sometimes be morally permissible to mandate to some offenders (see e.g. [2–5]). However, the ethics of *diminishing* rather than *enhancing* cognitive features in order to prevent some types of crime has received virtually no attention.² One notable exception is Elizabeth Shaw, who has recently noted in passing – as analogical support for her view that non-consensually withdrawing enhancement technologies provided by the state from offenders who use such technologies to commit more or new crimes is ethically dubious – that “if someone committed crimes by misusing his naturally high intelligence, or by misusing capacities that he had acquired through education it would be abhorrent to damage his brain to make him lose those skills” [6].

However, while Shaw seems to take it as given that using CDs on offenders is morally unacceptable, there is in my view good reasons why such a proposal deserves more in-depth scrutiny than it has hitherto received. The main reason for this, and in favour of such a proposal, is that crimes that arguably require the offender to be cognitively gifted are plausibly often

¹ I assume that CDs would be meted out by judges as a response to criminal wrongdoing of the kind described. However, since it seems to have little impact on the discussion at hand (but see note 8), I remain agnostic regarding whether these interventions should be understood as rehabilitative measures doled out alongside, or in addition to, a punishment, or whether CDs are better understood as punishment.

² Others have engaged in a somewhat similar discussion (see e.g., [37]). However, they have done so without considering the neuroethical considerations that I shall pursue here.

accompanied by considerable harm to the victims. For example, the malware developed by Hamza Bendelladj and Aleksandr Panin is estimated to have caused close to a billion dollars in financial losses for private individuals and financial institutions [1]. And a person with the motivation and cognitive features needed to construct explosives for terrorist purposes may obviously cause others immense harm. Supposing that the risk of such indirect and direct harm can be mitigated by mandating CDs to some offenders, this arguably provides a strong *pro tanto* reason in favour of such a proposal. That is, other things being equal, the use of CDs may be morally acceptable. However, perhaps things are not equal since many of the moral considerations that have been raised against mandating neurointerventions generally and altering offenders' cognitive features specifically seem to apply with equal (or greater) force to a suggestion of employing CDs on offenders. Although one paper cannot consider them all, several of the most central of these concerns will be critically discussed in relation to CDs.

More precisely, this paper proceeds as follows. In the next section, Section 2, I will clarify further what reductions of an offenders' cognitive features may more precisely consist of, as well as provide some reasons to believe that technologies for this purpose could be developed. This will be followed by critical discussions of four objections (and their variations) that have, or plausibly could be, raised against employing such technologies for crime prevention, focusing on autonomy, harm, narrative identity, and a right to mental self-determination. My focus is on whether these considerations convincingly rule out the use of CDs for crime prevention. I will argue that they do not.

However, a few points of clarification regarding the scope of the paper are in order. First, I cannot here engage in a comprehensive discussion of the specific technologies that may be employed as CDs, or of the important ethical issues that may hinge on each of them (although these issues will need to be addressed at some point). For example, how invasive a technique would need

to be to achieve a given diminishment – and whether that diminishment is reversible – may make a moral difference. To side step these issues, it will be assumed that the interventions under consideration are minimally invasive³ and could be reversed at the state's discretion. Second, and more generally, I do not intend the present paper to be making a case for the permissibility of employing CDs, all things considered. There may well be other considerations, practical and moral, that needs to be scrutinized for such a conclusion to hold. Here I shall consider only some key neuroethical challenges to using CDs in the criminal justice system.

2. CD?

How might we more precisely understand the notion of CD? To shed light on this, it seems useful to start from a definition of its counterpart. According to an influential definition, cognitive *enhancement* consists of interventions that improve the ability of one or several core cognitive functions to do what they normally do [7]. In other words, cognitive enhancements are interventions that improve an individuals' cognitive capacities. In line with this, I take diminishments of cognitive *capacities* to be interventions that reduce the ability of higher-order cognitive functions to do what they normally do. This includes, but is not limited to, reducing someone's capacity for directing attention, their capacity for understanding information, their capacity for memory storing and recall, their capacity for reasoning, etc. Furthermore, I shall also speak of diminishment of cognitive *abilities*, which will refer to interventions that reduce (or completely remove) a person's learned skill(s). I include both types of CD in the present discussion for two reasons.

³ This is also why I do not discuss concerns relating to the putative right to bodily integrity. This is not to suggest that no potentially CD technology would violate such a right; rather, whether a technology would do so is a contingent question. If the technology is, for example, no more invasive of a person's body than being woken up by the lights being turned on in a dark room, as has been suggested is the case with tDCS treatments, then it is not clear that this would violate a right to bodily integrity [38].

First, to my knowledge, the most recent reference of the moral objectionability of using CDs on offenders seem to include both what I have called *capacity diminishments* and *ability diminishments* as morally problematic. In the quote by Elizabeth Shaw given in the introduction, she includes both reducing an offender's "naturally high intelligence" and diminishing "capacities that he had acquired through education" [6] as acts that would be morally dubious. When Shaw here refers to an offender's "naturally high intelligence", I take it that what she has in mind is something akin to what I refer to as "cognitive capacities". And what Shaw refers to as capacities acquired through education is very close in meaning to what I have termed "cognitive abilities", although my definition allows that that the ability could have been acquired through means other than education, say by using enhancement technologies.

Second, and more importantly, diminishments both of cognitive capacities and cognitive abilities are in principle achievable by neurotechnological means. In the case of the former, this would include treatments that diminish an offender's capacity to concentrate on a task for longer periods of time. For example, an offender whose crimes rely on this ability to do complex mathematics (such as coding) may receive an intervention that reduces his capacity to concentrate, thus plausibly disabling him from performing this mental activity effectively. Such a concentration diminishing treatment is, of course, currently merely hypothetical, but note that studies indicate that diminished capacity to concentrate is a known side effect of some treatments for depression and anxiety involving selective serotonin reuptake inhibitors [8]. Thus, there may currently be available treatments that could serve as the basis for developing interventions that would specifically target the capacity to concentrate. At any rate, although this is but one way to diminish capacities, I shall use as an example of a diminishment of offenders' cognitive capacity that of concentration diminishment throughout the paper.

That diminishing a person's cognitive abilities is, at least in principle, possible is suggested by the existence of conditions such as pure alexia. This consists in the impairment or complete loss of the ability to read following injury to the posterior left hemisphere, without this necessarily affecting other brain functions [9]. In other words, while individuals suffering from pure alexia have diminished ability to read or have completely lost the ability to do so following brain trauma, some of them experience no other diminishment of cognitive capacities or abilities. Supposing, hypothetically, that such diminishments could in future be achieved by neurotechnological means, subjecting an offender to CD could then consist of diminishing the specific abilities needed to commit the offence. For example, an offender whose crimes rely on his ability to do complex mathematics (such as coding) may receive an intervention that reduces or removes this specific ability. What cognitive abilities one would need to diminish to prevent future crimes is obviously relative to the crime it itself, but in what follows I shall focus on the ability to do complex mathematics and the ability to read.⁴

Having more precisely specified two ways in which offenders may be cognitively diminished and having motivated the distinction between the two, I now turn to some reasons that have been raised, or could plausibly be raised, against mandating such interventions to cognitively gifted offenders.

3. Autonomy

An important concern raised in the broader debate on the ethics of using neurointerventions in the criminal justice system is that mandating such interventions violates an offender's autonomy (see e.g. [10, 11]). Given the underdeveloped nature of the debate on the use of CDs, such arguments

⁴ As already mentioned in the introduction, I shall not engage in the important question of how these technologies would more specifically work, e.g., how invasive they would need to be and whether they would be reversible. The important ethical considerations related to this question would need to be considered on a case-by-case basis and is, at any rate, beyond the scope of this short paper.

have not been provided against such interventions specifically, but it seems obvious that one reason why one might oppose the non-consensual use of CDs would be similarly motivated. Specifically, the argument would be that mandating CDs to offenders is morally wrong (or, at least, harder to justify than other state responses to crime) because doing so fails to show the appropriate respect for the offender's autonomy. However, it is not enough to simply point out that because receiving CD is not a product of the offender's autonomous decision-making *qua* his being obliged by the state to receive it, this makes such a response to his wrongdoing morally dubious. After all, autonomy infringements of this kind are usually considered permissible in the context of criminal justice; few (if any) seemingly accept the fact that an offender has not autonomously chosen incarceration or a fine as a decisive reason against such a response. There are, however, at least two autonomy-based concerns that could plausibly be raised against mandating CDs.

3.1. *CDs are (relevantly like) medical treatments*

It could be argued that, while we can permissibly infringe an offender's autonomy when doling out other state responses to wrongdoing, the fact that CDs are (relevantly like) medical treatments implies that an offender's autonomy must be respected.⁵ That is, one could premise an objection on the intuitively plausible idea that CDs are (relevantly like) medical treatments, and medical

⁵ I add the qualifier *relevantly like* in the description of the argument because some may question whether CDs can be properly labelled medical treatments. After all, medical treatments are usually characterised as attempts to prevent, remove, or at least ameliorate diseases or disorders. It is not clear, however, whether a principled distinction between treatments and diminishments is possible. Specifically, it seems that CDs can in principle be treatments. Consider, for instance, the case of Solomon Shereshevskii, whose exceptional memory allowed him to remember a vast number of facts, but at the same time “[h]is inability to forget trivial facts severely impaired his ability to learn new information and cognitive skills” [39]. Had it been possible to diminish Shereshevskii's memory to a level at which it no longer inhibited him from learning new information or skills, such a diminishment would seem to qualify as a treatment. However, should the reader remain unconvinced that CDs of offenders constitute medical treatments he/she can, without it having any impact on the discussion that follows, reframe the first premise as one claiming that CDs are subject to the same consent requirement as medical treatments. Should the reader wish to reject this claim as well, e.g., because he/she considers that the use CDs or neurointerventions more generally are to be motivated by correctional rather than medical considerations, thus making the putative obligation of obtaining informed consent something that requires additional argument in its favour rather than something that can be assumed [40], then he/she can safely ignore this section.

treatments require the medical subject's consent in order to respect his autonomy. This second premise corresponds to what is arguably the standard view in medical ethics: that informed consent to medical interventions must (usually) be obtained for such interventions to be permissible, because this shows the proper respect for a patient as a "self-ruler" who "acts freely in accordance with a self-chosen plan, analogous to the way an independent government manages its territories and establishes its policies" [12].⁶ However, this argument faces a serious challenge insofar that it is supposed to rule out *any* non-consensual use of CDs.

Even if it is granted that CDs are medical treatments (or, at least, that they are subject to the same consent requirement as medical treatments), there is at least one important difference between rejecting an ordinary medical treatment and rejecting preventive CDs that may plausibly have implications regarding whether we should respect an offender's autonomy in the latter cases. As others have observed, the difference becomes clear if one notices who the primary bearers of the possible negative effects of rejecting each of these proposals are [5]. When person X, for example, rejects a cancer treatment, the primary bearer of the possible negative effects (e.g. the harm) of doing so is X himself. However, this is obviously not the case regarding offender Y's rejection of CD. In such cases, the primary bearers of the possible negative effects (e.g. the harm) of offender Y's rejecting the treatment are his potential future victims. In these cases, then, a trade-off between the important values of respect for (an offender's) autonomy and (his potential victims') well-being needs to be made. Importantly, when the need for such a trade-off appears in other contexts, e.g. in cases of infectious disease control, it is not always the case that respecting a person's autonomy is

⁶ Arguments for an informed consent requirement to neurointerventions can, of course, be based on one or multiple important moral values besides autonomy (e.g. harm, trust, and self-ownership) and can be more or less permissive in terms of what infringements of the requirement (if any) they permit [36]. It would, however, be overly ambitious to attempt to critically discuss all these possible ways to defend the requirement in relation to CDs in this short paper. More importantly, as Jesper Ryberg has pointed out, when the consent requirement is considered in relation to offering or mandating neurointerventions to offenders, it is usually because it is believed to reflect the need to respect offenders' autonomy (see e.g., [5, 41]).

preferred over reducing great harm.⁷ Similarly, if the harm an offender may cause to others with his criminal activities is believed to be sufficiently grave, this may plausibly reduce the need to respect his autonomy [5, 13]. If this is true, then respect for autonomy may not block the use of mandatory CDs on offenders in cases where such use would prevent great harm to others.

3.2. CDs and the capacity for autonomy

The second autonomy-based reason to oppose the use of CDs would be to argue that, contrary to other state responses to crime, CDs would be detrimental to an offender's autonomy because they may reduce the cognitive capacities necessary for it. Interestingly, this objection would not be limited to the adherents of one particular conception of autonomy if it were true, as others have suggested that most (if not all) theories of autonomy consider at least some cognitive capacities related to rational reasoning to be necessary for it – that is, the cognitive capacities related to a person's "ability to properly comprehend the options ahead of them, evaluate different options, deduce appropriate courses of action, weigh consequences, etc." [14]. Specific capacities conducive to reasoning as thus understood include capacities for "deductive/logical competence, comprehension (including the avoidance of false beliefs), and critical analysis" [14]. As these authors point out, there seems to be an overlapping consensus between a diverse range of accounts on the view that these and similar reasoning capacities are necessary for autonomy. For example, on the well-known hierarchical accounts of autonomy offered by Frankfurt [15] and Dworkin [16], being able to critically analyse how to best bring one's first-order and second-order desires into line is necessary for autonomy [14]. What is important for the present discussion is that views such as these that consider reasoning necessary for autonomy imply "that inhibiting someone's ability to

⁷ Indeed, even in article 8 of the European Convention on Human Rights, which explicitly calls for the protection of personal autonomy, it is noted that its protection is not absolute, but can be overridden to e.g., protect others from harm. I thank the anonymous reviewer that pointed this out to me.

reason and deliberate would inhibit autonomy” [14]. Plausibly some cognitive capacities that could be targets for crime-preventive CDs are exactly the kind of cognitive capacities necessary for autonomy. A diminishment of an offender’s capacity to concentrate, for example, would likely make it more difficult for him to critically analyse how to bring his desires into line. But should a concern for an offender’s capacity for autonomy have us reject the use of *all* CDs? I believe the answer to this question is no.

First, while radical reductions of the cognitive capacities necessary for autonomy (whatever they may be more precisely) could plausibly completely deprive offenders of a capacity for autonomy, it is not clear that more moderate reductions of these cognitive capacities could be plausibly opposed by reference to a capacity for autonomy. To see this, suppose that the CDs reduced the level of the relevant offender’s cognitive capacities to that of an average person. In this case, to maintain that the offender’s capacity for autonomy has been thwarted would imply that those with average functioning cognitive capacities do not possess a capacity for autonomy. I take it that no one finds this view acceptable. Some may, however, find this dismissal too hasty. What is morally important, they may say, is not (or not only) that an intervention diminishes the cognitive capacities necessary for autonomy below a certain threshold, but that the relevant capacities are diminished at all.

However, and second, suppose that the CD an offender is obliged to receive could target only a narrow set of cognitive abilities, for example his ability to do complex mathematics. Upon receiving the intervention, the offender would *ex hypothesi* no longer be able to engage in activities that required this skill, such as complex programming. And while this may surely be distressing for him, depriving him of this skill can hardly be said to have reduced his capacity for autonomy in the sense of having reduced or otherwise affected his ability to engage in sound reasoning. By analogy, we surely would not say that a person suffering from pure alexia – who (as

will be recalled) has lost the ability to read due to a brain injury, but is otherwise cognitively unaffected – has a reduced capacity for autonomy due to losing this skill; being able to read (just like being able to do mathematics and other similar skills) does not seem necessary for rational reasoning and, by extension, a capacity for autonomy. It may be objected, however, that while being deprived of skills such as those described may not affect the *capacity* for autonomy, it does amount to a restriction on the possible ways in which one may *exercise* one's autonomy. That is, that CDs used in this fashion would be restrictive of, to use Jonathan Pugh's terms, the practical dimension of autonomy, rather than its decisional dimension [17]. However, while this is surely true, it is not clear why we should think that this way of restricting an offender from exercising his autonomy is more morally problematic than the other ways in which practical autonomy is restricted in the criminal justice system, ways that are usually considered morally permissible (or even desirable). Incarceration, for example, surely reduces practical autonomy to a considerable degree.⁸ Indeed, even less restrictive means, such as electronic tagging ensuring that offenders do not leave certain designated areas, would seem to reduce offenders' practical autonomy significantly.

In summary, what seem to be the two most obvious ways in which a concern for an offender's autonomy may be said to render the use of CDs morally dubious have been argued to be less persuasive than they first appear. Even if CDs are medical treatments (or, at least, subject to the same requirement of informed consent as medical treatments), other considerations may make respecting an offender's autonomy by obtaining their informed consent less pressing. Furthermore, an offender's capacity for autonomy need not be threatened by CDs, and it is not clear that the restriction on practical autonomy that CDs involve is morally worse than restrictions on practical autonomy usually accepted in the criminal justice system.

⁸ See also [21] for a similar argument regarding mandatory neurointerventions more generally.

4. Harm

Suppose it is true that concerns for an offender's autonomy will not suffice to rule out the use of mandatory CDs. What other plausible reasons could be offered against such use? One such reason can again be found in the broader literature on the ethics of using neurointerventions for crime prevention, where some theorists have argued that receiving such interventions should be in the best interest of the offender (see e.g. [18, 19]). A plausible interpretation of this concern is that the neurointervention an offender receives should not be detrimental to his well-being; in other words, it should not be harmful [20]. A similar concern could be raised in relation to CDs, since it seems plausible that they might indeed harm offenders. In fact, I suspect that, *ceteris paribus*, most of us consider non-consensually reducing another person's cognitive capacities or cognitive abilities to be an epitome of a harm conveying act. However, establishing that CDs are likely to cause offenders harm is arguably not sufficient for showing that they should not be employed in the criminal justice system. The reason for this is that other types of responses to these offenders' wrongdoing, responses that are usually deemed morally acceptable, are also harmful.⁹ For example, as Thomas Douglas has pointed out, even under ideal conditions incarceration is likely to cause offenders considerable harm by restricting their freedom of movement and association, thus severely limiting the relationships they can engage in and maintain and, more generally, the life-projects they can pursue [21]. But few seemingly consider this a sufficient reason for rejecting the use of incarceration.¹⁰ However, an opponent of CDs may respond that mandating such interventions are

⁹ See also [20].

¹⁰ Some readers may object that the reason the harm involved in incarceration and other punishments is usually considered morally permissible is that the harm inflicted by these punishments is proportional to the crime committed. In contrast, the harm a state response involving CD might inflict on the offender would not have this status. Whether the harm caused by CDs (and whether administering CDs more generally) would be proportional to the crimes committed is a complex question that easily requires a separate paper to answer. However, it is worth noting that others have convincingly argued in relation to mandatory neurointerventions more generally that they could be used, not as *alternatives to punishment*, but as *alternative punishments* [42], and that, if this true, then it follows that

likely to be more harmful to offenders than incarceration and other state responses to crime in at least one way: specifically, it may be argued that the *prospect* of receiving such an intervention is likely to be very distressing and thus harmful for reasons that other state responses to crime are not, e.g. because such neurointerventions cause changes to one's mental life without these changes being mediated by one's rational capacities.¹¹ There is no doubt that the prospect of receiving CD is likely to be distressing for most (if not all) of the relevant offenders. However, even if this is true, it still needs to be demonstrated that this level of distress is *higher* than the distress offenders plausibly experience at the prospect of receiving other responses from the state (such as the prospect of incarceration). It is not obvious that this is always the case, given the kinds of deprivation that state responses to crime may entail, such as being forcefully separated from one's family and friends.

To summarize this section, it would seem that harm-based arguments against employing CDs on some offenders face the challenge of being overinclusive. Furthermore, it has been argued that the suggestion that the prospect of receiving CD is likely to be more distressing, and thus more harmful, than the prospect of receiving other state response to crime is unpersuasive.

5. Narrative identity

Even if mandating CDs to some offenders cannot plausibly be opposed on autonomy-based (or harm-based) grounds, there is another important reason why one may hold that such interventions should not be used which has been somewhat overlooked in the debate regarding mandatory neurointerventions. Specifically, although she does not develop this point in depth, Elizabeth Shaw suggests that forcefully reducing cognitive capacities or abilities amounts to illicit tampering with,

neurointerventions can be imposed in ways that does not violate proportionality-constraints [5]. Hence, future work would need to focus on whether these considerations also apply to CDs specifically.

¹¹ In [43], this concern is expressed in relation to the mandatory use of neurointerventions more generally.

and the possible disruption of, an offender's *narrative identity* [6]. This is an important consideration, since it speaks to the intuition that mandatory neurointerventions are morally problematic to the extent that they alter parts of an individual's mental life central to who they are as a person. According to narrative accounts of identity, the normatively significant changes to an individual's character are those that do not meet the conditions for such change to be incorporated into her self-narrative. At least three such conditions have been suggested as relevant for the assessment of the narrative fitness of psychological changes induced by neurotechnological treatments [22], but none of them clearly rules out the use of mandatory CDs of some offenders.

5.1. *The articulation constraint*

The first condition states that a person must be able to articulate the explanation for adopting a specific narrative. Marya Schechtman [23] terms this the *articulation constraint*. The condition demands that "the narrator should be able to explain why he does what he does, believes what he believes, and feels what he feels" [23]. Applied to the present case, CD may be said to be detrimental to an offender's narrative identity if, for example, he cannot articulate why he is no longer able write complex hacking software or, more generally, why he is no longer as cognitively well-endowed as he was prior to the intervention. It should be acknowledged that radical reductions in cognitive capacities and/or cognitive abilities could plausibly result in an inability to explain how these reductions have occurred; indeed, if radical enough, such reductions may deprive offenders of the ability to produce a coherent narrative at all. However, this would arguably not be the case if the CDs simply reduced an offender's otherwise high-functioning capacities to a level that is normal for the population. To argue that doing so would leave offenders incapable of articulating the reasons for adopting a self-narrative would imply that all individuals within this normal spectrum of cognitive capacities were unable to meet the articulation constraint. Given this, it is arguably hard to

see why cognitively diminished offenders could not simply include a description in their self-narratives of the court's decision to mandate these interventions to them as an explanation of the changes in their cognitive features.¹²

5.2. *The reality constraint*

The second condition, also offered by Schechtman, concerns identity conferring narratives' relation to facts about the world. This *reality constraint* rules out as identity-constituting narratives that are at odds with observational facts about the world, or are a result of radical interpretative errors of these facts [23]. One plausible way in which a CD might be suggested to violate this constraint might be if the reduction of cognitive features produced by it was not attributed by the offender to the intervention, but to some other source (e.g. a lack of exercise or sleep). Another example might be if the offender were to deny, or fail to notice, that the intervention had indeed reduced his cognitive features. More examples could surely be imagined. However, while the question of whether offenders will conceive of the effect of the CDs in ways that cohere with facts about the world is largely an empirical one, it is hard to imagine that they will generally fail to do so. After all, other individuals who experience a sudden decline in cognitive abilities or capacities, such as stroke victims suffering from aphasia, are presumably quite aware that they are no longer able to understand and produce language and are capable of attributing this inability to the correct source (i.e. the stroke). Furthermore, even in cases where the narrative offered about the effects of CD by an offender is in conflict with the reality constraint, such a conflict could perhaps be addressed by attempting to correct these factual errors.

¹² This last point is similar to the argument offered by Baylis [24] as a response to the view presented by Schechtman [44] that personality changes caused by DBS treatments may fail to meet the articulation constraint.

5.3. *The equilibrium constraint*

Françoise Baylis [24] suggests that a personal narrative should be considered identity-conferring only if it satisfies what she terms the *equilibrium constraint*: “the identity-constituting narrative is the narrative that effectively balances how a person sees and understand herself, with how others see and understand her” (p. 518). As is clear, this condition is relational and demands that an individual’s self-narrative should find uptake among others for it to be identity-constituting. According to this relational account of narrative identity, there are at least two ways in which CDs could be a threat to identity. First, if CDs make it impossible for offenders to form a coherent self-narrative, the equilibrium necessary for identity cannot be achieved. However, as noted in a previous section, this need not be the kind of effect the interventions under consideration have; thus we can set this concern to one side. Second, Baylis’ account suggests that an individual’s identity can be threatened by the discriminatory attitudes of others, which narrows the field of narratives that will be accepted by these others as identity-constituting. According to Baylis, this may be morally worrisome to the extent that it constrains an individual from autonomously “contribut[ing] to authoring her life in a manner that is consistent with her broader interests, values and commitments” [25]. In such cases of *oppression*, as she terms them, individuals are “constrained by stories that are not their own making but, rather, have been decreed, construed, and constructed by others who limit (in overt, covert, or insidious ways) who she can be, by actively and/or structurally restricting the range of narratives that can be appropriated and successfully enacted” [25]. This may be a relevant concern for the present discussion. Specifically, it could be argued that mandating CD to an offender may restrict the range of narratives they can successfully pursue if, for example, receiving a court-mandated CD is understood to imply (or is actively supported by) a narrative of the offender as a dangerous and/or untrustworthy person. The trouble is, however, that it seems equally plausible that other state responses to crime also restrict an offender’s narrative range. For

example, being incarcerated may imply or be actively supported by a narrative of the offender as a dangerous and/or untrustworthy individual. If true, one would only be in a position to reject the narrative oppression of offenders by means of CDs if one were also willing to reject the use of imprisonment as an appropriate response to some types of wrongdoing for the same reason. But few, I suspect, would be so willing.¹³

To sum up this section, I have argued that it is not clear that subjecting offenders to CDs need be a threat to their narrative identities, or at least that such interventions should be seen as no more of a threat to narrative identity than other types of state responses to crime.

6. The right to mental self-determination

The last arguments against mandating CDs to offenders that we shall consider relate to the putative right to mental self-determination. On a general level, the moral thrust of mental self-determination objections to the use of non-consensual neurointerventions on offenders is that they deprive them of control over their mental life [4, 26–28]. There are, however, several ways in which the specific content and scope of a right to mental self-determination can be spelled out [5]. Some interpretations seem to coincide with concerns we have already discussed in the previous sections – for example, ways to delimit its scope include the suggestion that it offers protection against non-consensual alterations to the parts of a person’s mental life that are central to their identity [4], as well as against non-consensual interventions diminishing a person’s capacity for autonomy [4, 29].¹⁴ As we have seen, these concerns do not seem sufficient to block the use of CDs. There are,

¹³ While it is not clear, at least to me, what argument(s) could be offered to support this idea, it should be noted that it remains open for a supporter of the *equilibrium constraint* to argue that the narratives that are suppressed by traditional state sanctions (e.g. incarceration) are different from the narratives suppressed by state-mandated CDs – and, further, that this makes a moral difference.

¹⁴ An additional concern that will not be considered here, as it has been discussed at length elsewhere, is that the right to mental self-determination protects persons from having their inner life altered by specific means. Specifically, it protects them against interventions that deliver their effects through bypassing mental control mechanisms such as perception and other psychological mechanisms, which supposedly makes them harder to resist than other types of

however, at least two concerns based on a right to mental self-determination that we are yet to consider in relation to CDs. I now consider each in turn.

6.1. CDs undermine capacities for mental control

The right to mental self-determination has been argued to protect individuals from interventions that impair or reduce their capacities for mental control. According to Bublitz [29], one of the leading advocates of this view, mental control refers to all the mental features that we can consciously exercise “from attention and memory to various types of thinking or subduing impulses” (p. 95). Notice that an objection to the use of CDs building on Bublitz’s position would be broader in scope than one focusing on CDs effect on offenders’ capacity for autonomy, although the two do overlap. According to the latter view, *any* non-consensual reduction of mental features that we can consciously exercise – and not just those necessary for autonomy – would be considered morally dubious, and this presumably includes specific cognitive abilities a person may have acquired. But does a concern for an offender’s capacity for mental control thus understood succeed in ruling out mandating CDs to some offenders? The main reason for doubting this, in my view, is that even if CDs were detrimental to an offender’s capacity for mental control, accepting this as a sufficient reason not to employ these interventions might also have implications regarding other state responses to crime that many would likely find unacceptable. Specifically, although the effects of incarceration on an offender’s cognition is still an area in need of further study, it has been suggested that incarceration is causally related to the development of major depression [30] and other mood disorders among offenders [31]. This matters in the present context because a recent meta-study has found that such disorders are associated with significant cognitive deficits in

intervention. However, as Jesper Ryberg [5] has recently observed, it is contentious whether the fact that an intervention can be perceived implies that its influence can therefore be controlled or resisted.

patients even after remission [32]. Plausibly, albeit speculatively, incarceration may thus cause some offenders to experience a decline in cognitive functions. This speculation is further supported by a recent study by Rebecca Umbach, Adrian Raine, and Noelle R. Leonard [33], who found incarceration to be associated with significant declines in cognitive functioning among the participating offenders from baseline to follow-up after just four months of imprisonment. This included, *inter alia*, a decline in the offenders' capacity for cognitive control. Thus, to argue that acts reducing an offender's capacity for mental control should not be pursued may also require rejecting incarceration as a permissible response to an offender's wrongdoing – a response which is, as previously mentioned, widely believed to (at least sometimes) be morally permissible (or even desirable).¹⁵

6.2. *Violating the right to mental self-determination conveys a message of disrespect*

Another forceful objection to mandating neurointerventions such as CDs to offenders related to the right to mental self-determination is expressivist in nature. The main proponent of this view is Elizabeth Shaw [2, 34], who has argued that it is morally wrong to mandate neurointerventions to offenders because such a violation of an offender's right to mental self-determination conveys a message of disrespect. I here follow others in understanding a disrespectful message as one that “expresses a negative misrepresentation concerning the offender” [35]. Importantly, according to this view, the wrongness of mandating neurointerventions does not reside in the violation of a right to mental self-determination as such, but in the message of disrespect that such a violation expresses “because of the social meaning that attaches to violations of the rights to mental and

¹⁵ A possible response is that reducing mental control by means of CDs is *intended*, while its possible reduction due to incarceration is merely *foreseen*, and that this is morally significant (for such an argument regarding the harms associated with neurointerventions generally, see [45]). As others have noted, however, recent attempts to apply the intended/foreseen distinction to explain the intuitive difference between the mental effects of incarceration and mandatory neurointerventions face considerable challenges: see e.g. [46] or [47].

bodily integrity” [2].¹⁶ Anchoring an understanding of a message as disrespectful on its social meaning obviously makes it (at least partly) an empirical question whether the message conveyed is indeed disrespectful, and this may raise a number of challenges for the expressivist argument [36]. But even if empirical issues are disregarded, an expressivist argument will not succeed in ruling out the use of mandatory CDs. To see why, it is useful to look closer at two kinds of message that mandatory neurointerventions may be said to convey.

The first kind of disrespectful message that mandating a neurointervention to an offender may send is the so-called *status message* [35]. A status message concerns the moral status of a person and conveys the false view that a particular person or group of persons have fewer or weaker rights than others. Shaw, for example, argues that mandating certain kinds of neurointerventions to an offender may falsely portray them as someone who has less of a right to be listened to than others [34]. More relevant for the present discussion, mandating CDs may be said to send the disrespectful message that offenders do not have, or have a weakened right to, mental self-determination, and for this reason mandating them would be morally wrong. Should we be convinced by such an argument? Now, let us first note that, for this argument to have force, it must be the case that the status message conveyed is in fact false [35] – in other words, that it is *not* the case that an offender’s right to mental self-determination is indeed forfeited or weakened to the point that mandating CD to them is permissible. If this *is* the case, then the message conveyed would not be a misrepresentation of an offender’s moral status. Thus, it would not be disrespectful. However, in order to establish that the message conveyed is indeed false, the expressivist would need to provide a non-expressivist argument for why it would be impermissible to violate the right in question and establish that mandatory CDs indeed violate this right. And in doing so, the

¹⁶ Shaws argument applies to violations both of a right to bodily integrity and of a right to mental integrity/self-determination. I here only directly address the expressivist concerns regarding violations of the latter right, but much of what is said should apply readily to violations of the former right as well.

expressivist argument against mandating CDs would show itself to be redundant: we would already have sufficient reason to reject a suggestion of mandating CDs.¹⁷

The second kind of disrespectful message that mandating neurointerventions to offenders may convey has been referred to as a *capacity message* [35]. Generally speaking, disrespectful capacity messages convey the false view that offenders lack, or have diminished, cognitive or moral capacities. Shaw, for example, notes that mandating some types of neurointerventions to offenders “implies that offenders are radically defective with regard to one of the most fundamental aspects of their agency” [34]. However, even if it were true that other types of neurointerventions conveyed disrespectful capacity messages, it is difficult to see why we should think that CDs might do so. More clearly, since the interventions we are considering would reduce the cognitive capacities or abilities of cognitively gifted offenders, the message conveyed by doing so could hardly be that they lack these capacities or abilities in the first place. It may be replied that reducing an offender’s cognitive capacities or abilities does in fact send a disrespectful capacity message by implying that offenders are so morally or motivationally defective that certain cognitive powers need to be taken away from them. The main problem for this response is, however, that it is not clear that sending this message would *misrepresent* the level of an offender’s moral or motivational capacities. That is, it may be true that offenders lack such capacities, or that they have them to a lesser degree than others – indeed, the very justification for even considering using CDs on offenders relies on this being the case (i.e. if we do not suspect that an offender will use his cognitive powers to commit morally wrong acts, we would have no reason to reduce them in the first place). If so, the message conveyed would not be disrespectful.

¹⁷ For a similar argument applied to status messages more generally, and a critical discussion of different strategies expressivists may attempt to use to avoid it, see [35].

In summary, this section has argued that two prominent arguments against mandating neurointerventions to offenders based on a right to mental self-determination do not persuasively rule out the use of CDs on offenders.

7. Conclusion

Diminishing the cognitive abilities or capacities of some cognitively gifted offenders whose ability to commit their crimes successfully relies on them possessing these abilities or capacities may prevent them from re-offending and thus causing others considerable harm. In this paper, I have considered whether variations of four arguments that have been, or plausibly could be, raised against employing CDs on such offenders are persuasive. I have argued that they are not. However, this does *not* show that such interventions should be employed. Other moral considerations not discussed here may show such interventions to be morally unacceptable. For example, if it turns out that invasive psychosurgery would be the only way to cognitively diminish offenders in the relevant way then this may well suffice to rule out their use. Furthermore, there are at least two practical reasons that may speak against using CDs on offenders. First, other existing or future techniques may be more efficient in reducing re-offending among cognitively gifted offenders. If, for example, it turns out to be possible to motivate these offenders to conform to law in some other way (e.g. through cognitive behavioural therapy, education, community engagement, etc.), then this may well be preferable to the present proposal.¹⁸ Second, even if CDs turn out to be the most efficient way to reduce re-offending, important questions remain regarding whether courts will in fact use such interventions in ethically defensible ways in practice.

¹⁸ Other countervailing considerations include the possibility that, rather than *reducing* re-offending among the relevant offenders, CDs will cause them to commit *more* crimes because other well-known ways to combatant recidivism upon re-entry into the community (such as securing employment) are less effective on this group due to diminished cognitive features. Another consideration is whether the relevant offenders could be persuaded to use their exceptional cognitive powers to fight rather than commit crimes.

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