



Moral Neuroenhancement for Prisoners of War

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Received: 27 September 2021 / Accepted: 15 December 2021
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Abstract Moral agential neuroenhancement (MANE) can transform us into better people. However, critics of MB raise four central objections to MANEs use: (1) It destroys moral freedom; (2) it kills one moral agent and replaces them with another, better agent; (3) it carries significant risk of infection and illness; (4) it benefits society but not the enhanced person; and (5) it's wrong to experiment on nonconsenting persons. Herein, I defend MANE's use for prisoners of war (POWs) fighting unjustly. First, the permissibility of killing unjust combatants entails that, in cases where MANE is equally or more likely as termination to reduce moral recidivism in unjust combatants, then MANE is morally justified. Second, the relevant infections and illnesses caused by MANE are less bad than death, so MANE leaves unjust POWs better off than the alternative. Third, just as incarceration is often permissible despite benefiting society but not the incarcerated, the same holds for unjust POWs. Fourth, we should accept a broader construal of "benefit" that includes moral benefits. Thus, 3 and 4 are false when applied to unjust POWs. Fifth, medical experimentation likely to help nonconsenting persons is sometimes permissible. Because MANE is likely to help unjust POWs irrespective of their consent or lack thereof, its use is permissible. Sixth, basic principles of proper medical care support

the use of MANE on unjust POWs as *pro tanto* morally obligatory. I conclude that militaries should therefore begin to employ MANE for unjust POWs.

Keywords Moral neuroenhancement · Moral treatment · Prisoners of war · Military ethics

Introduction

Medical ethics is having a heyday over enhancement. As medical technology grows in sophistication and reveals new applications, the prospect of enhancing humans grows more imminent by the day. Some proposed enhancements involve drugs or technologies familiar to most of us, such as Jessica Flanigan's [1] recommendation that young patients be allowed prescription-free access to neuroenhancing drugs like Adderall. Others, by contrast, propose more radical changes. For instance, Rafael Ahlskog [2] advocates the widespread use of psychedelics like LSD and psilocybin to expand the average human's capacity for empathy. Among the most controversial species of enhancement, however, is *moral enhancement*. What is moral enhancement? Thomas Douglas, one of its earliest advocates, lists several possibilities:

There are various ways in which we could understand the suggestion that we morally enhance ourselves. To name a few, we could take it as a suggestion that we make ourselves

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more virtuous, more praiseworthy, more capable of moral responsibility, or that we make ourselves act or behave more morally. [3].

Douglas [3] himself identifies a fifth subspecies of moral enhancement: improving our motives. When accomplished by biomedical means, these outcomes count as *moral* enhancements.

Such proposals, however, are not without their critics. Numbering among the objections are concerns that unenhanced persons will be less able to avoid blameworthy actions or engage in praiseworthy ones [4], cf. [5], that enhancements targeting moral beliefs kill persons whose prior moral convictions were essential to their identity [6], that neurochemical and neurophysical are incapable of providing desired results [7], and that enhancements are destructive to human freedom [8] or valuable moral deliberation and individuality [9].

Recent discussions of moral enhancement have centered on strengthening human empathy [2, 10–12] and reducing recidivism [13–17]. Curiously, there has been little attention paid to potential applications in the ethics of war [18]. The current paper moves towards filling that lacuna.

Traditional questions of moral enhancement and violence have tended to center on three issues: (a) enhancing warfighters with beta-blockers to depress feelings of guilt and shame after killing in war [19, 20], (b) accepting organ donations from prisoners [21], a practice explicitly prohibited by international human law [22], and (c) medicalized punishment/treatment to reduce prison terms, such as chemical castration [23]. By contrast, I focus on the ethics of neuroenhancements for *prisoners of war* (hereafter, ‘POWs’). As I see it, neurocorrectives for POWs add new blood to the moral enhancement debates in two ways. First, there are unique moral issues raised by the prospect of morally enhancing POWs. I outline these in the “Caring for the Morally Modified” section of the paper, but straight away we can see that unlike domestic prisoners, prisoners of war are almost exclusively foreign actors whose actions are unlikely to be viewed by their home states as justifying neurocorrection. Second, to the extent that arguments for neuroenhancing POWs apply to other groups (e.g., domestic prisoners, psychopaths, etc.), powerful arguments in favor of neuroenhancing POWs serve to justify the neuroenhancement of other groups. So,

a defense of neurocorrectives for POWs is valuable both narrowly (i.e., because it raises unique moral issues) and widely (i.e., because it potentially justifies neurocorrectives for non-POWs).¹

There are well-known international laws governing the treatment of POWs, the most prominent being the Geneva Convention:

Prisoners of war must at all times be humanely treated. Any unlawful act or omission by the Detaining Power causing death or seriously endangering the health of a prisoner of war in its custody is prohibited, and will be regarded as a serious breach of the present Convention. In particular, no prisoner of war may be subjected to physical mutilation or to medical or scientific experiments of any kind which are not justified by the medical, dental, or hospital treatment of the prisoner concerned and carried out in his interest. (Geneva Convention III, 1949: Article 13)

It is, to say the least, an unfortunate fact that many detaining powers, including the United States, have violated this requirement. The torture (euphemistically known as ‘enhanced interrogation’) of POWs during the Global War on Terror has been documented in striking detail [24, 25]. These operations were conducted primarily but not solely by the U.S. Central Intelligence Agency (CIA). They not only conducted illegal torture and detainment operations, but has also ‘brainwashing’ experiments designed to turn enemies into friends, terrorists into freedom fighters, communists into capitalists [26]. These experiments, however, bore few if any benefits to counter-terrorism operations [27]. But what if they had been *successful*? That is, what if the CIA, aided by the best science and technology, had succeeded in converting unjust combatants either to just combatants or harmless civilians?

In what follows, I’ll defend the use of moral agential neuroenhancements (or ‘MANEs’) for unjust POWs. In deploying concepts and distinctions common to revisionist just war theories but uncommon to bioethics, I beg readers’ patience as I strive to wed these two literatures. Following on an earlier

¹ I’m grateful to an anonymous reviewer at *Neuroethics* for pointing these out.

distinction, I'll focus on *reactivated* unjust POWs, that is, unjust combatants who would, if treated and repatriated, "reassume the moral equivalent of their prior combatant status" [28]. For what I call *unjust* POWs (i.e., those POWs whose service as an unjust combatant resulted in their prisoner-of-war status), the moral equivalent of their prior combatant status is *unjust* combatant status. I offer two arguments for the deployment of MANEs on reactivated, unjust POWs. First, as unjustly violent offenders reasonably expected to become repeat offenders *sans* MANE, there's a lesser-evil obligation (grounded in wide proportionality constraints) to reduce recidivism risks. Second, we can't release reactivated unjust combatants and later satisfy the necessity condition of killing them in self-defense or other-defense, as the threats they pose are ones for which we also bear responsibility. Third, because unjust POWs are plausibly suffering from a moral deficit that endangers their lives, MANE is morally required under standard treatment protocols.² These arguments are defended in the "Targeting Moral Enhancement" section. In the "Understanding Moral Enhancement" section, I introduce readers to the science of moral enhancement and therapy. In the "Caring for the Morally Modified" section, I explore *post bellum* implications for enhancement, including continued responsibility for POWs treated with biomedical moral enhancements. The "Objections and Replies" section contains replies to objections to MANE itself or to its application in warfare contexts.

Understanding Moral Enhancement

Let's begin with some terms and conceptual distinctions. My concern is with what Brian Earp calls *agential moral neuroenhancement*, which he defines as follows (where 'CNS' is 'central nervous system'):

Agential moral neuroenhancement: Any change in a moral agent – effected or facilitated in some significant way by the application of a neurotechnology [i.e., a technology that works directly on the CNS] – that results, or is rea-

sonably expected to result, in the agent being a morally better (i.e., more moral) agent. [29]³

I'll abbreviate these as 'MANE's (Moral Agential NeuroEnhancements). Some theorists distinguish between *enhancements*, on the one hand, and *therapies*, on the other [2]. However, I'm unconvinced that different ways of carving this distinction work. Moreover, as I defend the *compulsory* use of MANEs on reactivated unjust POWs, the ethical importance of the enhancement-therapy distinction is largely moot.⁴ Thus, I shall refer to what some theorists call 'therapies' as 'enhancements.'

Next is the *direct–indirect* distinction. In their 2015 paper, "Moral Enhancement: Do Means Matter Morally?" Farah Focquaert and Maartje Schermer characterize the distinction as two approaches to enhancement. The former indirectly changes the brain's structure and function by changing thought patterns and behavior. The latter directly changes the brain's structure, which then (in turn) modifies thought patterns and behavior [30]. To illustrate, Focquaert and Schermer offer deep-brain stimulation (or 'DBS') and talk therapy as contrasting examples of these approaches, writing:

Talk therapy uses our brain's capacity for reorganization by directly influencing mental states and thus indirectly the brain states underlying our mental states, whereas DBS uses our brain's capacity for reorganization by directly influencing brain states and thus indirectly the mental states that result from this direct 'rewiring' of the brain. [30]

Unlike deep-brain stimulation, which doesn't "rely on the active involvement of the receiver to achieve" brain changes [30], talk therapy requires involvement, namely, the choice "to reiterate certain thoughts/mental states in order to achieve the desired brain activation patterns" [30].

Third and finally is the *neurophysical–neurochemical* distinction [31]. While the *conceptual* difference between neurophysical and neurochemical interventions is clear enough, the *scientific* differences—in efficacy, approach, and availability—are not. Thus, an introduction to the

² This latter argument builds on Sarah Carter's [43] defense of moral biotherapy. I explain and explicitly build on Carter's view in the "Targeting Moral Enhancement" section.

³ Cf. Earp et al. [85] for the original definition.

⁴ My thanks to an anonymous reviewer for making this point.

science of enhancement is in order. Let's begin with neurophysical interventions, which encompass both invasive and non-invasive technologies. Exploring the feasibility of these technologies for MANE, neuroethicists Veljko Dubljević and Eric Racine offer the following survey of non-invasive technologies:

Neurostimulation technologies are certainly relevant interventions in the context of moral enhancement. Non-invasive neurostimulation technologies are advanced in application and have a much greater potential for enhancement use in healthy adults than other techniques given their non-invasive nature. *Transcranial magnetic stimulation (TMS)* is frequently discussed in the literature, and apparently more than 60 academic articles report the use of TMS to produce performance enhancements in perceptual discrimination, motor learning, visual search and tasks involving attention, memory, and language in *healthy human subjects*. [7]⁵

Among invasive technologies, deep-brain stimulation (or DBS) is sometimes viewed as a potential route to MANE:

Unlike non-invasive forms of brain stimulation, deep-brain stimulation (DBS) could be more likely to modulate cortical-limbic pathways because it can influence both cortical and subcortical structures. A deep brain stimulation device usually consists of one or several electrodes implanted in a particular region of the brain (typically thalamus, the pallidum, or the sub-thalamic nucleus regions) and connected by wires to a battery-driven pulse generator which is surgically implanted just below the collarbone. [7]

However, the drawbacks of DBS may include “irreversible short-term (e.g. hemorrhage) and long-term effects (e.g. reshaping synaptic connectivity),” as well as “psychiatric side effects such as hypomania and mania” [7]. Others, however, claim the effects of DBS are reversible [32]. This supports the impression that most neurophysical technology is at a nascent

stage. Other experimental neurophysical interventions, such as UC Berkeley's StimDust implant, is a promising stimulator for military personnel and medical patients:

[M]easuring only 6.5 cubic mm (which is 3-4 times smaller than a grain of rice), it senses neural activity and stimulates peripheral nerves [33]. It is a [sensor] that does not work with batteries and the ultrasound is used both to power the moat and to read out the measurements—more effective than radio waves because it can penetrate anywhere in the body. The envisaged uses for this stimulator include the treatment of heart irregularities, chronic pain, asthma, epilepsy. The neural dust can also be used for a range of other functions, such as to stimulate the immune system, to tamp down inflammation, or suppress the appetite. [34]

By contrast, the use of drugs to enhance performance—military, athletic, or moral—is both ancient and widespread.⁶ Neurochemical interventions include increased serotonin levels to reduce implicit bias [3] or mitigate aggressive impulses, oxytocin and stimulants that promote pro-social behaviors like empathy [7], medroxyprogesterone acetate, which functions as an anti-libidinal for sex offenders [35], and psychedelic drugs like LSD, DMT, and psilocybin that cause openness and altruism [2]. LSD, for instance, causes a diminished sense of self, thereby diminishing selfishness and increases altruistic behavior. Generic cognitive enhancement (i.e., of one's IQ or level of *G*), then, is a tide that lifts all boats:

When there is more of the resource, any level of moral sentiment will make sure that there are at least some increases in cognitive resources spent on others than oneself. [2]⁷

⁵ For a more recent overview of the promising nature of TMS, see Jung and Lambon Ralph [86] and Bleich-Cohen et al. [87].

⁶ For an overview, see Kamiński [88] and Macpherson et al. [89], Table 1, 998–999.

⁷ Brian Earp [29] cautions that neurochemical interventions are unlikely to work if administered involuntarily, but rather “would most likely foster states of mind that allowed one to engage with the moral domain in a more productive or insightful way”. Experimental technologies like ADIs, however, often work involuntarily about as well (and for the same reason) as a gun to the head.

Moreover, Ahlskog emphasizes the *long-term* upshots of psilocybin:

Further, substantial experimental research has found that psilocybin, administered by clinical staff under carefully controlled and supportive circumstances, reliably causes sustained increases in the personality domain of openness, as well as moderate to extreme positive behavior changes, such as increases in altruism and decreases in judgmental attitudes, both immediately following the session as well as fourteen months later. It has also been shown that use of psychedelic drugs among convicted offenders is associated with reduced recidivism, whereas other drug use is associated with the opposite, and that LSD produces acute increases in pro-social sharing behavior in an SVO task. [2]⁸

Other neurochemical interventions include drugs that treat substance abuse and addictive disorders such as methadone maintenance therapy (MMT), topiramate, and buprenorphine; and medications like methylphenidate (Ritalin) and dextroamphetamine (Adderall) that treat ADHD, a condition strongly correlated with criminal behavior for which pharmacological interventions can reduce recidivism rates by up to 12%.

The efficacy of each of these interventions, neurophysical and neurochemical alike, has been challenged on various grounds (e.g., [7, 8, 36]). However, before proceeding to defend the morality of these interventions, I wish to make note of one further intervention discussed in a recent paper by Margaret Pabst Battin and Brent M. Kious:

Some years ago, one of us (Peggy Battin) proposed a thought experiment: Suppose there is a simple medical device, based on the triple technology of the time-release capsule, the subdermal contraceptive implant, and a painless, quick-acting euthanasia drug developed in the Netherlands, where euthanasia is legal: it's

a delayed-onset, rapid-acting, painless euthanasic implant. Anybody newly diagnosed with Alzheimer's or other irreversible progressive dementia, while still lucid and competent, can request one. Positioned painlessly and invisibly in the body, the implant is designed to release its lethal drug instantaneously after a designated delay—say, two or three years, or five years, or ten, whatever the patient requesting the implant stipulates. [...] [If unremoved,] it will release the euthanasic drug after the designated delay—without further warning, without pain or discomfort, and without requiring activation of any sort. It will just go off, and, as with an instantly fatal but pain-free heart attack, that will be the end. [37]

Referring to this device as an 'advance directive implant' or 'ADI,' Battin and Kious [37] ultimately defend its permissibility for Alzheimer's and dementia patients. They note that ADIs can be 'smart' or 'dumb', the latter being "essentially inert except for its internal programming that regulates the time to release" and the former able to "process biological information from the user as well as communicate with the outside world," allowing others to "track some physiological markers" in order "to delay, speed up, or cancel its activation".

For now, set aside the prospect of using ADIs for Alzheimer's patients. Instead, imagine the use of ADIs *to motivate moral behavior*. There are various ways this might go, but I'll offer one possible scenario:

Sex Offender: Prisoner is a repeat sex offender sentenced to life in prison. His attorney, Lawyer, petitions Judge for conditional release. The ideal condition: an implanted ADI that would, if activated remotely by a parole officer monitoring Prisoner's activity, chemically castrate Prisoner, destroying his sexual libido.⁹ Alternatively, Lawyer proposes a second, less ideal condition: chemical castration that destroys Prisoner's sexual libido. Once treated, Prisoner will lack motivation to engage in sexual crimes. Moreover, Prisoner has never committed crimes

⁸ Cf. Holoyda [90], who confirms the usefulness of psychedelic drugs on recidivism:

Though Timothy Leary's research failed to identify a link between psychedelic use and a reduction in criminal recidivism, more recent studies support his hypothesis that psychedelic drug use may reduce an individual's risk for engaging in violence and other anti-social behavior.

⁹ For a highly imaginative variant of this thought experiment, see Savulescu and Persson [91].

of any other sort. Judge's sole concern is recidivism, and Lawyer appears to be offering a way for Prisoner to be released *without* increased risk of recidivism.¹⁰

Were you in Judge's position, would you accept this offer? Before answering, consider the criminal torts to which sexual offenders are already morally and legally liable: lethal self- and other-defense, capital punishment (in some states), and life imprisonment.¹¹ Now ask yourself which is in Prisoner's best interest: (a) to be incarcerated *sans* a sexual outlet or (b) to be free *sans* limited sexual capacity (i.e., capable, because of the ADI, of only consensual sex with adults)? Presumably, Prisoner is better off free than incarcerated. But if it's in the best interest of both Prisoner and the public, then it seems *pro tanto* permissible to utilize anti-libidinal technologies like the hypothetical ADI for MANE purposes.¹² The ADI technology does not improve *Prisoner as a person*, but then that was never in the cards. Rather, it improves expected outcomes for Prisoner's welfare while literally neutering his predatory inclinations.

Targeting Moral Enhancement

In this section, I'll defend the application of both direct and indirect MANEs for unjust, reactivated POWs. I defend three arguments: the *Recidivism Reduction Argument*, the *Undermined Necessity Argument*, and the *Best Therapy Argument*.

¹⁰ For a legal defense of anti-libidinal interventions, see Forsberg and Douglas [92] and Forsberg [93].

¹¹ Cf. Douglas [94] and McMahan [95] for defenses of the moral liability of criminal offenders to medical interventions. See also Douglas [96] for replies to critics.

¹² This isn't a defense of chemical castration *tout court*, or even a defense of chemical castration as a condition of early release for just any prisoner. Unlike forced sterilization of (predominantly) Black women in the United States, anti-libidinal interventions bear a special relation to the crime committed, namely, sexual assault and its prevention. For more on the disturbing history of eugenics and forced sterilization, see Cohen [97], Bruinius [98], and Tännsjö [99]. For a review of the legal scene at the zenith of eugenics, see Donovan [100].

The Recidivism Reduction Argument

To start, I'll clarify some terminology:

REACTIVATED: *P* is a reactivated prisoner of war just in case, were *P* to receive (non-moral) medical therapy or be repatriated, then *P* would reassume the moral equivalent of their prior combatant status.¹³

Thus, reactivated POWs are to be distinguished from other POWs. Call those POWs.

DEACTIVATED: *P* is a deactivated prisoner of war just in case, were *P* to receive medical therapy (including MANE) or be repatriated, then *P* wouldn't reassume the moral equivalent of their prior combatant status.¹⁴

The central thesis of this paper is a defense of transforming unjust, reactivated POWs into deactivated POWs via biomedical moral enhancement. Defined this way, unjust, reactivated POWs pose a *recidivism risk*. That is, because would resume the moral equivalent of their prior combatant status if released, and because their prior combatant status was *morally unjust*, the risks they pose to others—just combatants and noncombatants alike—are unjust.

In a prior paper [28], I argued against Helen Frowe [38] and Cécile Fabre [39] that injured, reactivated unjust combatants ought to receive life-saving medical therapy. Herein, I won't defend so broad a claim. My focus is not on reactivated unjust *combatants*, but on reactivated unjust *prisoners of war*. The latter comprise a much smaller subset of the former. However, like reactivated unjust combatants generally, reactivated unjust POWs pose the same recidivism risk. The difference is that, unlike other unjust combatants encountered exclusively in surveillance or combat, reactivated unjust POWs are *under our control* and *in our care*. This offers not only unique tactical advantages, but also moral ones.

To see what I mean, let's agree for argument's sake that a particular prisoner of war, whom I'll simply call 'Prisoner', is a reactivated *unjust* combatant. Thus, Prisoner, if treated or repatriated, would persist in posing unjust threats to nonliable parties

¹³ Cf. Hereth [28], at 69.

¹⁴ Cf. Hereth [28], at 71.

(e.g., shooting at civilians). These parties just/justified combatants and civilians. Why would Prisoner do this? Let's break potential causes down into three broad categories:

- a. *False beliefs*: explicit beliefs that motivate Prisoner to pose what are (contrary to what Prisoner believes) unjust threats to others.
- b. *Bad implicit attitudes*: implicit attitudes, like racial or nationalistic biases, that motivate Prisoner to pose (contrary or in conformity with Prisoner's beliefs) unjust threats to others.
- c. *Neurological*: properties of Prisoner's brain that cause—via a neural mechanism other than beliefs or implicit attitudes—a lack of empathy or other neurological condition which in turn contribute to Prisoner posing unjust threats to others.

Perhaps Prisoner doesn't care about right action at all. Perhaps Prisoner cares about right action but is confused or misled about the rightness of their state's war. Or perhaps Prisoner lacks empathy for their state's enemies. Whether culpable for posing unjust threats or not, Prisoner's *behavior* is immoral and, as DeGrazia remarks,

Behavioral improvement is highly desirable in the interest of making the world a better place and securing better lives for human beings and other sentient beings. It follows that motivational improvement and improved insight, given their conduciveness to behavioral improvement, are at least instrumentally valuable. [40] (original emphasis)

None of this entails that the *cause* of Prisoner's immoral threatening is irrelevant to MANE. Far from being irrelevant, identifying the cause is paramount to selecting the least harmful, least invasive biomedical intervention for Prisoner's moral enhancement. Having clarified these points, I'll now state the first argument:

The Recidivism Reduction Argument

1. Reactivated unjust POWs would, if treated or repatriated, pose unjust threats to others.
2. Absent defeaters, we ought to mitigate unjust threats to others.

3. So, absent defeaters, we ought to mitigate threats that would be posed by reactivated unjust POWs.
4. If we ought to mitigate threats that would be posed by reactivated unjust POWs, then we should either:
 - a. *kill/permanently disable* reactivated unjust POWs, depriving them of further opportunities to pose unjust threats;
 - b. *continue imprisoning* reactivated unjust POWs, severely curtailing their opportunities to pose unjust threats;
 - c. *turn* reactivated unjust POWs, depriving them of motivation to pose unjust threats.
5. Other things being equal, we ought not kill/permanently disable individuals when we could instead treat them for safe release.
6. Other things being equal, we ought not to continue incarcerating persons when we could instead treat them for safe release.
7. So, other things being equal, we ought to prefer (c) to (a) and (b).
8. So, other things being equal, we ought to mitigate threats that would be posed by reactivated unjust POWs by *turning* reactivated unjust POWs, depriving them of motivation to pose unjust threats.

Furthermore, because MANE is—by stipulation and considering ADI-type technologies¹⁵—the most effective way of turning reactivated unjust POWs, and because we should choose the means of turning them that's most likely to mitigate risk of unjust harm [11], we ought to pursue MANE.

In evaluating the argument, we can move beyond 1–3 and 7–8. It's really 4–6 that require further defense. But I don't think these premises require *much* defense. Few would deny the truth of (5). Killing or permanently disabling people without their consent is *pro tanto* very bad, and it's subject to a necessity requirement which is undercut by (c). Some might deny the truth of (6) on the following grounds:

¹⁵ Combatants subject to immediate termination upon resuming their belligerent status are very unlikely to choose or be allowed to resume their belligerent status. They are, as it were, 'dead in the water' and unfit for combat.

Someone who deserves incarceration should continue to receive it, even if their release would be safe. However, it's doubtful POWs *deserve* incarceration even if they are liable to it, at least not on a wide scale and not merely in virtue of their unjust combatant status.¹⁶ Moreover, it's unclear that unjust combatants with POW status deserve incarceration in the same way that war criminals or domestic criminals do, as the former acted lawfully whereas the latter did not [41, 42].¹⁷ That leaves (4), which many will realize does not cover *all* the possibilities for how we might deal with unjust combatants. We could, for example, be kind to them, release them, and hope for the best. But that is unlikely to prevent them from again posing unjust threats, and thus is unlikely to discharge our obligation to mitigate those threats. Beyond cutting them loose, killing/permanently disabling them, keeping them under armed guard, or rehabilitating them, I'm unsure what further options there are.

The Undermined Necessity Argument

My second argument is related to the first. Let's begin by imagining a case where we *do* release a reactivated unjust combatant and things go south:

Revisited. Sergeant is a reactivated unjust combatant. The leader of the just combatants, General, decides that Sergeant will be released despite foreseeing that Sergeant will return and unjustly threaten friendly just combatants. Sergeant is released, returns a month later, targets friendly just combatants, and is shot dead by General before she can fire a shot.

¹⁶ War criminals arguably deserve punishment, if anyone does, but war criminals comprise only a small fraction of unjust combatants. However, another reply is available in the case of war criminals. Either a war criminal's just deserts include punitive MANE, or they don't. If they do, then pursuing punitive MANE as an alternative to incarceration is permissible (and, by premise 7, *obligatory*). If they don't, we should ask why. My best guess is that some would prefer war criminals' punishment to be very bad for them and MANE feels like getting off cheap. However, there's a sense in which MANE is very bad for them: it modifies their allegiances and threatens severe harm for noncompliance. To appease readers for whom MANE is inadequate by their retributive lights, I recommend pursuing *both* MANE and some other form of punishment (either concurrently or in some preferred temporal order).

¹⁷ See also my response to Objection 9 below.

Most people assume General acted permissibly in *killing* Sergeant. Some even think General acted permissibly in releasing her.¹⁸ However, we must reconsider the apparent justification for General killing Sergeant, which I take to be this:

DEFENSE: General is permitted to defensively kill Sergeant because (a) Sergeant poses an unjust threat to nonliable persons and (b) killing Sergeant satisfies necessity, proportionality, and imminence requirements for permissible other-defense.

We can and should grant (a). But the necessity claim in (b) is suspect. Let's grant that General killing Sergeant was necessary in the sense that, *in that moment and leaving the past unchanged*, General had no alternative to save the lives of the just combatants unjustly targeted by Sergeant. However, if the claim is that General killing Sergeant was necessary in the sense that *there was nothing General could have reasonably done in that moment or in the past* to save the lives of the just combatants without killing Sergeant, then the claim is false. It's false because General could have kept Sergeant in chains or, in keeping with this paper's focus, morally enhanced Sergeant in a way that made Sergeant unthreatening. Because General could have done this, General's killing Sergeant in *Revisited* doesn't satisfy the necessity requirement. Thus, (b) is false, and so is the claim that General acted permissibly.¹⁹

¹⁸ The 1998 film *Saving Private Ryan* portrays a similar case: U.S. Corporal Upham (Jeremy Davies) spares German soldier 'Steamboat Willie' (Joerg Stadler), who later returns and fatally wounds Captain Miller (Tom Hanks) and is subsequently killed by Upham.

¹⁹ Alternatively, we can say that General's defensive action satisfies necessity *notwithstanding* their moral responsibility for its necessity, and thus General's defensive action is all-things-considered morally permissible. However, even this alternate route reaches the same destination. Because General is morally responsible for the necessity of their own defensive action (i.e., responsible for unjust threats to others), their prior actions necessitating defensive action were impermissible. Perhaps worse, consider that *General* bears greater responsibility than *Sergeant* for Sergeant's unjust threats. After all, it's because of General's actions that Sergeant poses an unjust threat: Absent General's actions, Sergeant would have remained disarmed. So, justice seems to require that *General* carry the lion's share of moral liability—a conclusion that nobody welcomes (at least not for their *own* generals).

So far, all I've defended the *ex post* claim that General acted impermissibly by killing Sergeant. But there's an *ex ante* claim that follows from this, and it's more important than the *ex post* claim. Given that General *would* act impermissibly if they kill Sergeant, it follows either that they *ought not to have released Sergeant* or that they *were permitted to release but not to defensively kill Sergeant*. Said differently, one of General's actions needs to change: either the release or the defensive killing of Sergeant. We have powerful reason to think it's the former and not the latter. Other things being equal, we ought not act in ways that foreseeably make it impermissible for us to defend nonliable parties from unjust harm. This follows from our more basic obligation to rescue others from unjust harm. Adding all of this together, we have the following argument:

The Undermined Necessity Argument

1. Other things being equal, persons ought to protect one another from unjust harm.
2. If (1), then other things being equal, persons ought not act in ways that foreseeably make it impermissible for them to defend others from unjust harm.
3. In cases reactivated unjust combatants are released instead of incarcerated or morally enhanced, those responsible for their release foreseeably make it impermissible (by undermining the necessity condition) for themselves to defend others from unjust harm.
4. So, other things being equal, persons ought either to continue incarcerating or morally enhance reactivated unjust combatants.

The effect of the argument is that we can't justify putting reactivated unjust combatants at risk of our someday harming them without undermining our permission to someday harm them. The reason lies

in the fact that we would then be morally responsible for allowing the material conditions of their unjust threatening to obtain.²⁰

The Best Therapy Argument

I'll now explore a third argument for the use of MANE for reactivated unjust POWs. This argument closely follows an argument by Sarah Carter, whose paper "Could Moral Enhancement Interventions be Medically Indicated?" raises an important question. According to Carter,

The question as to whether moral enhancement techniques could be medically indicated (and so therapeutic) is one that is important to consider as it could have far-reaching consequences. Regarding an intervention as a treatment or therapy in certain circumstances will raise new questions for that treatment regarding, for instance, its regulation, people's access to it, as well as questions regarding consent, and when it is appropriate to offer the treatment. [43]

Returning to our example of Prisoner above, suppose Prisoner suffers from a lack of empathy. Carter asks,

So with the DSM-5 definition in mind, *could* a lack of empathy be considered a case of mental disorder? Perhaps so—given the neurological basis of empathy it could be argued that a deficit of empathy could be demonstrative of "a dysfunction in the psychological, biological, or developmental processes underlying mental functioning" [APA 2013]. Further, this deficit of empathy could affect moral decision-making and in turn behavior-fulfilling two of the key criteria listed above for defining a mental disorder. [43]

Carter refers to this hypothetical disorder as *Moral Deficiency Disorder*. She characterizes it the following way:

This disorder would be characterized by a deficit of empathy and would principally be diagnosed in those individuals whose capacity for moral reasoning and action would benefit significantly from an increased level of empathy—that is, those for whom moral enhancement

²⁰ Can we justify releasing Sergeant on *liberty* grounds? That is, does Sergeant's right or interest in being free justify letting them go, knowing that they will abuse their liberty? No, because it's not *solely* Sergeant's choice to be later threatened (justifiably or not) by just combatants but also our choice (and we can't justify our choosing it), and Sergeant's liberty interests take a back seat to the interests of the nonliable parties she would threaten if released.

interventions would be medically indicated and considered a treatment. [43]

By stipulation, Prisoner suffers from Moral Deficiency Disorder. By hypothesis, if MANE is medically indicated for psychopaths and others with empathy deficiencies, then MANE is medically indicated for Prisoner and others with Moral Deficiency Disorder. This is particularly true if, as was also stipulated, people with Moral Deficiency Disorder *are actively posing serious unjust threats to others*.²¹

But then, not all reactivated unjust POWs suffer from lack of empathy. Many of them are likely deeply empathetic people who have false beliefs or harmful implicit attitudes about their participation in an unjust war. Even so, those false beliefs or attitudes have motivated them to engage in activities that resulted in their injury and capture, and it could have been worse. Consider the following principle of medical intervention:

THERAPY: If bio-property *p* makes person *S* less likely to survive or more likely to be incarcerated, then therapy of *p* is both conceptually possible and medically indicated.

An example of a ‘*p* candidate’ is extreme aggression. Enhanced aggressive traits make persons less likely to survive and more likely to be incarcerated. As a thesis, Therapy is quite modest in that biological properties that decrease lifespans or result in incarceration are *pro tanto* bad for people’s health.²² This prompts a second argument:

The Best Therapy Argument

1. Other things being equal, reactivated unjust POWs ought to receive the best medical therapy.

2. For any two therapies, *A* and *B*, and patient *S*: If *A* is more likely than *B* to result in *S* being less likely to survive or more likely to be incarcerated, then *A* is (in this respect) a less good medical therapy (*qua* medical therapy) than *B*.
3. Therapies of reactivated unjust POWs that exclude MANE cause reactivated unjust POWs to be less likely to survive or more likely to be incarcerated than therapies that include MANE.
4. So, other things being equal, reactivated unjust POWs ought to receive therapies that include MANE.

Premise (1) follows from Article 13 of the Geneva Convention and from widely accepted views of proper medical care. Other things being equal, medical professionals ought to act in patients’ best interests. The best medical care is in all patients’ best interests. Thus, medical professionals ought to provide the best medical care for their patients, including POWs.²³ For premise (2), which relies on Therapy (above), all that’s necessary is to accept that bio-properties that make people less likely to survive or more likely to be incarcerated are *pro tanto* bad for their welfare, and thus it’s conceptually possible for those bio-properties to be *treated*. Moreover, other things being equal, when some *X* is *pro tanto* bad for someone’s welfare, treatment of *X* is *pro tanto* medically indicated. To say ‘treating *X* is medically indicated’ means nothing more than ‘other things being equal, treating *X* would be better for the patient than not treating *X*,’ where ‘better for the patient’ permits moral encroachment. For instance, in cases where things are *unequal*, such as when just combatants place their lives on the line for nonliable civilians or when patients refuse consent and informed consent is necessary to render medical intervention morally permissible, their willingness to do so isn’t medically indicated.

²¹ Cf. Thomsen [101], 208–211. Thomsen describes a parallel medical justification in the following passage:

Given that the State characterized as these individuals as a biological threat, it should come as no surprise that the State would use a medical tool to assist in mitigating or removing the threat to the greatest possible extent. In this context, fMRI is more than a form of lie detector. It is a tool used to diagnose a threat to the State in the same way that a physician utilizes a blood test to diagnose a threat to the body [101].

²² My thanks to Tom Douglas for comments that improved my formulation of Therapy.

²³ Does routine medical treatment of unjust POWs require their consent? Consider force-feeding techniques applied at Guantánamo Bay: They keep patients alive and arguably constitute medical treatment, as they do in anorexia force-feeding treatments [102–104], but many condemn these practices [105, 106] and others recommend DBS as an alternative [107]. I lack the space to explore this question here. For now, I concede the possibility that the *Best Therapy Argument*’s success is parasitic on the *Recidivism Reduction Argument*’s success, as averting unjust harms typically does not require consent.

Finally, we come to premise (3). Recall that by definition, reactivated unjust POWs would, if treated or repatriated, continue to pose unjust threats to others. It's precisely that misbehavior that caused them to become POWs. By contrast, deactivated unjust combatants are at significantly less risk of becoming POWs again. Interventions that pursue MANE, unlike therapy plans that forego it, are more likely to create *deactivated* unjust combatants. Thus, interventions that pursue MANE, unlike therapy plans that forego it, are more likely to result in reactivated unjust POWs being justifiably killed or incarcerated. Further, this holds even if the probability of a token reactivated unjust combatant becoming a POW is very low. The reason why is clear: because deactivated unjust combatants are *even less likely* to become POWs. Thus, (3) holds.²⁴

The conjunction of the *Recidivism Reduction Argument*, the *Undermined Necessity Argument*, and the *Best Therapy Argument* are, I conclude, powerful evidence for the obligatory pursuit and implementation of MANEs for reactivated unjust POWs. In the next section, I turn to *post bellum* implications for states using MANEs to turn enemy POWs.

Caring for the Morally Modified

Thus far, I've defended the use of MANE on reactivated unjust combatants. If successful, they will cease unjust hostilities. However, this raises a further question: What becomes of them *post bellum*? Herein, I'll consider four related issues: responsibility for morally improved (former) POWs, symmetrical efforts by enemy states to utilize MANE, the political and ethical puzzle of unlawful combatants, and the ethics of conscripting former POWs into friendly military service.

Involuntary Dependency

In my defense of MANEs on enemy POWs, I assumed MANE interventions were *involuntary*. That

²⁴ What if the probabilities are distinct but *close*? That is, suppose Prisoner's odds of being justifiably killed or incarcerated are 10% *with* MANE and 15% *without* MANE. Would the smallest of improved odds justify imposing invasive MANE interventions on Prisoner without their consent? It might, given the severe badness of death or long-term imprisonment.

is, I assumed reactivated unjust POWs don't consent to, and may even resist, MANE interventions. Should Prisoner be truly morally transformed, their moral enhancement cannot be attributed to their own character, goodwill, and the like. Thus, if our state has any obligation to care for Prisoner grounded in Prisoner's moral betterment, it's *an obligation of care caused by making Prisoner dependent upon us*. This might be construed as a worry about *domination* [44] or *vulnerability* [45].²⁵

As detailed in the "Introduction" section, some MANE interventions (e.g., deep-brain stimulation) require ongoing and sometimes lifelong medical care and oversight [7]. Moreover, if technologies like ADIs are used, their maintenance cannot be trusted in enemy hands. Medical professionals working for an enemy state, and perhaps even a neutral state, are more likely to *remove* ADIs, which would (per the ADI's intended design) activate the ADI's 'tampering protocol' and kill the patient. Additionally, there are repatriation risks for enhanced former POWs. Their home state might not welcome them or, worse, subject them to suspicion or mistreatment as potential spies or enemy sympathizers. If MANEs are especially successful, former POWs may feel alienated from their home country, which no longer represents their (MANE-caused) values. For these reasons, states making use of MANE may be obligated to offer former POWs permanent residency in a new homeland.²⁶

Symmetrical Efforts

A second consideration is that enemy states will make symmetrical efforts to use MANE on *friendly combatants*. Assuming their biomedical capabilities match ours and assuming they capture friendly combatants, the biomedical arms escalation may result in a tit-for-tat, soldier-for-soldier trade. That is, suppose we capture 1,000 enemy combatants and successfully

²⁵ None of this is to say that dependency is, itself, bad—an ableist conclusion [108]. Rather, it's to say that causing others to be dependent upon us entails duties to care for them.

²⁶ I don't have space to defend this claim here. However, if repatriation risks are sufficiently serious, then morally improved enemy POWs might qualify as refugees the enhancing state is obligated to accept under *refoulement* principles. See Blake and Hereth [109].

transform them into friendlies. Suppose the enemy does the same with 1,000 of our combatants. In that case, we have gained as many soldiers as we have lost.

One obvious solution to this worry is, quite simply, to do MANE *better* than our enemies. To be sure, there are various states whose bioenhancement capabilities are no match for the United States or other world powers. For more equally matched powers, however, this approach would likely prove unfruitful. But then equally equipped states have a *natural disincentive* to pursue MANE against each other, as it benefits neither state by resulting in a net-zero change.²⁷ Another related approach is to ensure that compulsory MANEs are executed *covertly*, as this—like other public health measures—as may be necessary for their effectiveness [46].

Another alternative is to use the same biomedical interventions, like ADIs, *on our own troops* to prevent malicious neuro-tampering. Both the United States and other nations have experimented with technology that allows combatants to kill themselves (i.e., *strategic suicide*): the flight crew of the Enola Gay was prescribed cyanide capsules in the event they landed in Japan; Dr. Wouter Basson provided cyanide capsules to Special Forces units in South Africa; the Nazis ensured their spies were sent abroad with cyanide capsules in their teeth [47]. Of course, equipping soldiers to *kill themselves* is one matter; implanting a device that allows *us to kill them* is another. Still, enemy states might be less inclined to neuromodify our POWs if they knew such efforts would inevitably kill the POWs. Moreover, we could save our soldiers from torture and other mistreatment by remotely killing them, should ADI-like implants indicate their mistreatment (e.g., by high cortisol levels).²⁸

²⁷ During the Middle Ages, noblemen prisoners of war within Christendom would promise to remain *hors de combat* in exchange for release. The prospect of dishonoring oneself by breaking this oath, as well as the threat of retaliation, proved effective in ensuring promise-keeping. For more, see Buchan [110]. My thanks to Michael Gross for this historical example of establishing a process for symmetrical benefitting during war.

²⁸ For a superb discussion of paternalism and consent in the military, see Wolfendale and Clarke [111] and Greene and Master [112].

Unlawful Combatants

Another issue concerns the status of so-called ‘unlawful combatants’, i.e., combatants whose beligerency is legally unsanctioned [48, 49].²⁹ Ethically speaking, unlawful combatancy can be either just or unjust. Freedom fighters against the Nazis in the Warsaw Ghetto, for example, acted unlawfully but not unjustly. However, unlawful combatants are frequently detained and classified colloquially as ‘terrorists.’ Detainees in Guantánamo Bay, Cuba, for instance, must endure indefinite detention because deporting them is a dead end, given that no countries want them, and it’s illegal (if not unethical) to release them into the mainstream population. In addition to horrific mistreatments [50], long-term detention is itself a grievous harm to persons [51]. The prospect of MANEs offers an alternative to infeasible deportations and unsafe releases (cf. [52]). By staging neurointerventions that reduce aggression and other dangerous or anti-social traits, the ongoing threat of indefinite detention becomes unnecessary even if cautious oversight remains necessary. Indeed, even deportation may become feasible if sufficient evidence can be provided of reduced recidivism risk.

Conscription

A final consideration is this: Are we permitted to *conscript* biomedically improved former POWs into friendly military service? Some might view this as repayment of a moral debt owed by enemy POWs, who previously posed (and perhaps imposed) unjust harms. By forcing them to fight unjust combatants (i.e., their former compatriots), they offset or ‘pay down’ their moral debt. I expressed doubts earlier in this paper that unjust combatants are typically *culpable* for posing unjust threats. For similar reasons, I doubt they owe moral debts by virtue of their culpability. Nevertheless, they might be morally indebted for *responsibly* (but not culpably) posing unjust threats. As Jeff McMahan proposes, they may be only *partially excused* [53]. Others might object that ‘brainwashing’ enemy soldiers into friendly soldiers,

²⁹ I am indebted to Michael Gross for suggesting this important application.

and then using them to fight our wars, uses them objectionably as a mere means [54]. Allowing them to pursue noncombatant roles, by contrast, treats their unjust combatant status only *eliminatively* as opposed to *exploitatively* [38].³⁰ That is, their threat is merely disabled via MANE; they are not then used as cannon fodder to protect us against the harms for which they were previously responsible. Tentatively, I conclude that it's impermissible to draft morally improved POWs.

Objections and Replies

In this section, I'll entertain five important objections to my defense of MANE's use on reactivated unjust POWs. Unsurprisingly, I think none succeed.

Objection 1: MANEs are fundamentally experimental, and medical experimentation on non-consenting parties is impermissible.

A ban on medical experimentation is on surer footing. Consider again this fragment of Article 13 of the Geneva Convention:

In particular, no prisoner of war may be subjected to physical mutilation or to medical or scientific experiments of any kind which are not justified by the medical, dental, or hospital treatment of the prisoner concerned and carried out in his interest. (Geneva Convention III, 1949: Article 13)

Notice that Article 13 tacitly allows for medical or scientific experiments that *are* in a patient's best interest. That's precisely what the *Best Therapy Argument* maintains, i.e., that MANEs are in the best medical interests of reactivated unjust POWs. Moreover, whether a biomedical intervention counts as 'experimental' or not depends on empirical contingencies like how well-understood, widely practiced, and safe it is.³¹ Thus, there's a sense in which MANEs, even if experimental *now*, might not be experimental *later*. Rather, they might someday be routine.

*Objection 2: Patients who involuntarily undergo MANE lack moral freedom, which is bad because even prisoners have a right to informed consent [55, 56]. Thus, pursuing MANE for reactivated unjust POWs is impermissible.*³²

For some authors, the right to informed consent remains intact even for prisoners. For instance, most of us think prisoners don't forfeit their right against cruel or degrading treatment [57], and some ethicists maintain MANE fits the bill because it inhibits freedom [58–60].³³

First, the way reactivated unjust POWs would use their moral freedom comes at the expense of nonliable parties, whether just/justified combatants or noncombatants. The *Reduced Recidivism Argument* says we ought to reduce unjust risks to others, and the least harmful way to accomplish that for reactivated unjust POWs is pursuing MANE (cf. [61]). Second, it's unclear that MANE lessens free action. As Douglas [61] observes, some MANE interventions might enhance or enable freedom by mitigating problematic biases or introducing empathy. A related but distinct concern is the role of voluntariness in successful moral enhancement:

Objection 3: Moral enhancement doesn't work if it's involuntary [62, 63], but nor does it work if it's voluntary [64]. Thus, moral enhancement can't work.

For Vojin Rakić, moral enhancement works only if it doesn't render moral reflection causally superfluous. But involuntary enhancement does precisely that [62]. For Crutchfield, voluntary moral enhancement will prove ineffective because it attempts to change people's beliefs, they are aware of their beliefs and compulsory changes to them, and they will either not act on their new beliefs or will *sans* justification. Either way, moral enhancement fails [64].

In response, consider first that neuroenhancement technologies like ADIs don't manipulate beliefs. Rather, they motivate morally right action in much the same way a loaded gun to the head does: by offering coercive, self-interested incentives to stop threatening others. Both Rakić and Crutchfield view moral

³⁰ Cf. Quong [118], at 28.

³¹ For an applied perspective from a military surgeon, see Taylor [113].

³² For defenses of this objection, see Bublitz [58] and Harris [8].

³³ For replies, see Varelius [114] and Diéguez and Véliz [115].

enhancement as bettering *the agent* whereas I view it as bettering *behavior*. Second, Crutchfield claims moral enhancement *can* work if the agent's non-doxastic evidence for their moral beliefs is covertly manipulated [64]. Thus, the dilemma of Objection 3 isn't nearly as strong as it first appears. Moreover, MANEs that modify an agent's beliefs by covertly modifying their non-doxastic evidence effectively preserve the causal efficacy of moral reflection (at least moving forward), while also avoiding the epistemic problems envisioned by Crutchfield by being covert.

Objection 4: We should make room for pluralism, reasonable disagreement, and national partiality. After all, we rarely know whether we're just or unjust combatants, etc. Involuntary, biomedical MANEs prevent this. Thus, pursuing them is impermissible.

David DeGrazia and Owen Schaefer separately defend this. The former recommends that, in developing and implementing MANE, we “[s]tick to improvements that represent *points of overlapping consensus among competing, reasonable moral perspectives*” [40]. The latter writes,

Indirect moral enhancements are attractive in part because they avoid running afoul of the value of disagreement. When enhancers do not commit themselves to the morality of particular outcomes, they will allow individuals significant room to think and act for themselves—deliberations will continue, ideas evolve, and people still govern their own thoughts. [9]

Finally, a mere preference to fight alongside one's own co-nationals might be regarded as sufficient indictment of MANEs for enemy POWs [65, 66]. One variant of the national partiality objection can be put thusly: *Forcing enemy POWs to turn against their co-nationals is morally akin to turning people against their families, and thus MANE for enemy POWs is impermissible.* (Cf. [67] for more on filial partiality.) The destruction of filial relationships is indeed serious, so I propose we don't hand-waive away this objection. Rather, I will instead defend the more limited claim that MANEs can cause persons to ‘turn against’ their co-nationals in numerous ways, some of which strike me as plainly permissible, e.g., causing a Nazi POW to believe Nazi causes are morally unjust.

I'm sympathetic to the objection that we can rarely tell when wars are justified and that states should abolish their militaries [68, 69]. However, we sometimes *do* know that a war is unjust, as we did when the Nazis invaded Poland or when the United States pursued its genocidal campaign to annex the American Plains and West. More pointedly, the unfortunate fact is that states *will* pursue wars irrespective of their inability to know whether those wars are just. When they do that, morally improving enemy combatants is less bad than killing them. Second, national partiality has limits, as Davis [65] acknowledges. When one's side of the war is unjust, a demonstrated preference for one's unjust co-national combatants is impermissible [70, 71].

Objection 5: MANE interventions carry serious risks for patients, including lethal risks, and a dearth of benefits, that make their nonconsensual imposing on enemy POWs unjust. Thus, imposing them is impermissible.

The importance of consent is a crucial component to ethical medical practice [72–74]. A similar requirement holds for *benefitting* patients [75, 76]. However, these requirements are either satisfied by MANEs on enemy POWs or they don't apply. Under the *Best Therapy Argument*, MANEs benefit reactivated unjust POWs by minimizing their exposure to being justifiably killed or incarcerated. Under the *Reduced Recidivism Argument*, successful implementation of MANEs on reactivated unjust POWs is better for them than being justifiably killed or incarcerated. Thus, the ‘benefits’ requirement is arguably satisfied. Admittedly, the ‘consent to risks’ condition will typically go unsatisfied in cases where MANEs are needed for reactivated unjust POWs, as their noncompliance is presupposed by the necessity of MANE. However, we needn't acquire the consent of reactivated unjust POWs to *kill* or *incarcerate* them to avert the unjust threats they pose. Why, then, would their consent be necessary to impose biomedical MANEs, especially if medically indicated? Elizabeth Shaw offers one reason, which I'll treat as a separate objection:

Objection 6: MANE interventions express disrespect in a way that mere incarceration does not. Thus, MANE is worse than mere incarceration, and liability to the latter does not entail liability the former.

Specifically, Shaw complains that MANEs express the disrespectful message that “this person is fundamentally inferior and needs to be remolded” [16, 77]. Because “the mind and body are constitutive of the person,” interfering with them is always a *direct* attack on a person as opposed to incarceration, which is merely an *indirect* attack (*ibid*). Thus, Shaw claims incarceration can be “more easily interpreted as a way of addressing the person’s problematic *behavior*, rather than denying that the person herself has value” (*ibid*).

Applied to the current context, there are three important limitations to Shaw’s critique. First, neurointerventions like ADIs don’t express disrespect in the way Shaw envisions. Rather, ADIs function like armed parole officers or ankle bracelets, disincentivizing certain behaviors without eliminating control over a personal domain. Second, Shaw compares neurointerventions to incarceration whose intent is “restricting free movement and association under human conditions” [16, 77], but prison camps for POWs are rarely humane. So, MANEs are arguably preferable to continued incarceration at least under nonideal conditions. Third, people typically prefer temporary disrespect to death. For instance, most people would prefer to have a disrespectful, demeaning tattoo placed on their body than risk death. Whatever the costs of expressive disrespect on agents (and I concede they are high), they are typically lower than death—at least given most people’s estimations. For reactivated unjust POWs who will eventually resume their belligerent status and once again face the prospect of dying in combat, the choice is between risking disrespect and risking death. Given this widespread counterfactual preference, subjecting enemy POWs to MANEs *better* respects their wishes than killing them.

Objection 7: MANEs necessarily terminate (i.e., kill) patients where consent is absent. As the absence of consent in enemy POWs is presupposed, all enemy POWs subjected to (successful) MANEs are killed, which is impermissible.

On views like Parker Crutchfield’s, “a person’s moral traits are essential to that person’s identity” [6]. Calling this the *Essential Moral Self Hypothesis*, Crutchfield makes the following distinction:

People undergo changes to their moral traits all the time. But, usually these trait changes don’t result in different identities because only very few traits change or because the changes occur within the person’s narrative in a way that allows the narrative to continue to unify the self, preserving the person’s identity through the change. [6]

In cases where MANE is involuntary, the absence of the “higher-order moral trait” of consenting to moral transformation is absent. Thus, Crutchfield concludes:

Whether the intentional killing of a person by moral enhancement is murder further depends on whether the killing is justified. And, whether it is justified depends on the ethical standards under consideration. According to the traditional conception of biomedical ethics, the intentional, involuntary killing of a person by way of moral enhancement would always be murder, because according to this bioethical approach the individual is the primary decision-maker and care providers have ethical duties to do what’s best for the patient. Health-care providers would, therefore, be duty-bound to not administer the intervention. [6]

If Crutchfield is right, then MANE does not *better* an existing agent so much as *replace* them with another, morally better agent. First, there are reasons to doubt the Essential Moral Self Hypothesis. As Douglas argues, the transformative nature of “particularly traumatic experiences,” of which warfare is just one, occur but “we do not think that one person has literally been replaced by another” [3]. Second, even if we grant Crutchfield’s Essential Moral Self Hypothesis, the details matter. For instance, suppose Prisoner’s *core* moral beliefs include uncontroversial commitments to the good life, whereas their harmful false beliefs (e.g., about their actions in war) are confined to their *peripheral* moral beliefs. In that case, MANEs that target the latter don’t target Prisoner’s core self and thus wouldn’t kill Prisoner. Thus, the objection that MANEs *necessarily* terminate unconsenting patients is false. Third, some MANEs, such as ADIs, don’t modify the moral beliefs of reactivated

unjust POWs at all. Rather, they ensure compliance by threatening conditional lethal or immobilizing action against reactivated unjust POWs via controlled implants. Fourth, even if it were true that MANEs necessarily kill unconsenting patients, this could alternatively be justified as *preventive killing*. Referring to what I call ‘reactivated’ unjust combatants, McMahan writes:

Even though unmobilized soldiers have not as yet chosen to fight, it is statistically certain in advance that virtually all of them will fight if they received the order. This is what virtually all soldiers have always done. And we understand the reasons why they have done so and will continue to do so unless the relevant conditions change. [...] It seems, therefore, that when unmobilized soldiers will otherwise receive an order to fight in an unjust war of aggression, most of them are liable to attack if that is the only way, or even just the best way, to prevent them from engaging in an unjust attack. [78]

While I differ with McMahan on this, it remains a live option for those favoring the use of biomedical MANEs on reactivated unjust combatants.

Objection 8: If forcing MANEs on reactivated unjust POWs is permissible, then it would also be permissible to maim or disable reactivated unjust POWs if they requested it for purposes of early release/repatriation. But the latter isn't permissible.

This objection implicitly appeals to the ethical debate on *elective impairment* in which patients with Body Integrity Identity Disorder (BIID) request the removal of a healthy limb to ameliorate their dysmorphia [79–81]. Here's one way to see the connection: Neuromodifications are a form of elective impairment in that they modify an agent's capacities or identity, thus ‘cutting away’ some aspect of their former selves. Let's assume with the objector that elective impairment is generally morally impermissible.³⁴ First, unjust POWs who consent to elective impairment thereby make their *reactivated* status less clear. Indeed, they appear to be *deactivated* unjust POWs. If so, then elective impairment would be a redundant

effort to ending their threats, and thus unnecessary, and thus (as the objector holds) impermissible. But suppose Prisoner informs us that unless we impair them, their home country will reactivate them. In that case, Prisoner consents to elective impairment *not* because of BIID, but because they wish to avoid continued military service or its risks (e.g., being re-captured). Here, Prisoner's preferences mirror those of ‘draft-dodgers’ who elect to disable themselves rather than risk armed conflict. Arguably, this doesn't qualify as *elective* impairment, in that *some* impairment is practically necessary to avoid risk of worse harm. Thus, consenting to impairment for this reason doesn't entail the permissibility of elective impairment.

*Objection 9: We rarely (if ever) know whether the wars we fight are just or unjust. So, we rarely know whether enemy combatants are just or unjust combatants, whether they are liable to MANEs, or whether we are morally improving or corrupting them.*³⁵

Let's assume with the objector and others [82–84] that we rarely or never know whether the wars we fight are justified.³⁶ First, recall that I have defended MANEs deployment *during* war and thus have presumed that wars have begun. That's important because if we are *engaged* in a war, our presumption is that our cause is just. So, if it's permissible to presume our cause is just, then it's also permissible to presume MANEs on enemy combatants are just. Second, let's suppose that we're engaged in a war but *don't* presume our cause is just. In that case, perhaps we should end our involvement in that war. However, states rarely end armed conflict for fear of moral uncertainty. So, we must look to the next-best option. Rather than killing enemy combatants, continue to incarcerate them, or release them and risk them posing unjust harm to our troops (the uncertainty cuts both ways, after all), we can morally enhance them in ways likely to swiftly end their belligerency—and with it the war itself. Thus, MANEs may turn out to be the least harmful, most likely, and thus most moral way to end wars the justice of which we are uncertain.

³⁵ Thanks to Tom Douglas for encouraging me to address this objection more explicitly.

³⁶ For a critique, see Bazargan-Forward [117].

³⁴ For a challenge to this view, see Bayne and Levy [116].

Conclusion

Moral agential neuroenhancements (MANEs) improve who an agent is, morally speaking. These interventions can be neurochemical (e.g., LSD) or neurophysical (e.g., DBS). Herein, I have defended the use MANEs on a sub-class of enemy soldiers, namely, enemy prisoners of war fighting for some unjust cause(s) who, if treated or repatriated, would continue to pose unjust threats to others. After reviewing various possible means of achieving moral enhancements for these POWs, I offered three arguments in defense of its general permissibility. First is the *Recidivism Reduction Argument*: Our obligation to prevent unjust harms via the least harmful means entails pursuing MANEs for reactivated unjust POWs. Second is the *Undermined Necessity Argument*: Voluntarily releasing reactivated unjust combatants causes us to be responsible for their later unjust threats, thus making us responsible for the (apparent) necessity of defensively killing them. By bearing responsibility in this way, we undermine the necessity of defensively killing reactivated unjust combatants and thereby make it impermissible to kill them—even at the cost of our own troops. So, we should either continue incarcerating them (which also carries some risks to just combatants, as violent prison breaks are commonplace during war) or morally enhance them. Third is the *Best Therapy Argument*: Therapies that include MANEs are more likely to prevent patients from being justifiably killed or incarcerated, both of which are medically bad for them, and thus therapies that include MANEs better satisfy the requirement to provide the best therapy to patients, including enemy POWs.

The pursuit of MANEs for prisoners of war entails further duties of care, however. It is likely impermissible for us to stage biomedical interventions on prisoners of war and then cut them loose. Rather, by making them dependent upon us both for ongoing maintenance and oversight of their biomodifications, as well as the inherent risks of repatriating them, we ought to offer them permanent residency in our own country. Second, the fact that a MANE for POWs might initiate symmetrical efforts by antagonistic states forces us both to perfect our MANE biotechnology and to disincentivize enemy efforts. As an example, an Advance Directive Implant (or ‘ADI’), a technologically feasible implant that (when activated) kills the person in whom it’s implanted, could prospectively be utilized to avert tampering with our soldiers: If the enemy attempts to ‘turn’ them, the ADI is activated and our soldier is killed. A form of strategic

suicide, technologies like this are intended to keep our soldiers safe and loyal by making it unfeasible to turn them via comparable biomedical moral interventions. Third and finally, I briefly argued against conscripting enemy POWs, now on our side, to fight within friendly ranks. As morally transformed individuals, they no longer bear responsibility for their prior (and likely nonculpable) wrongdoing and thus aren’t liable to be forced into harm’s way on our behalf.

To summarize: We should pursue biomedical moral enhancements for reactivated unjust prisoners of war. Doing so benefits their would-be victims, as well as the prisoners themselves (i.e., by saving them from indeterminate incarceration or being killed) and provides strategic advantage by reducing the number of unjust combatants. This conclusion serves not only to justify moral neuroenhancements for prisoners of war, but also to justify compulsory moral neuroenhancements more generally. That isn’t to say that *all* such enhancements are permissible; of course they aren’t. Rather, it’s to make the as-yet unmade observation that morally enhancing prisoners of war is a test case and a launch platform for moral neuroenhancement in structurally similar cases.

Acknowledgements Thanks to Tom Douglas, Michael Gross, Jonathan Moreno, Nick Evans, Paul Tubig, and Erika Versalovic for comments on earlier drafts of this paper. Special thanks to the 2021 Minerva Research Initiative grant “The Ethics of Warfighter Participation in the Development and Testing of AI-Driven Performance Enhancements” for funding it.

Funding This paper was funded under a grant by the U.S. Air Force Office of Scientific Research, award number FA9550-21-1-0142.

Declarations

Conflicts of Interests/Competing Interests The author has no conflicts of interests/competing interests to declare.

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