

## Better Brains, Better Selves? The Ethics of Neuroenhancements

**ABSTRACT.** The idea of enhancing our mental functions through medical means makes many people uncomfortable. People have a vague feeling that altering our brains tinkers with the core of our personalities and the core of ourselves. It changes who we are, and doing so seems wrong, even if the exact reasons for the unease are difficult to define. Many of the standard arguments against neuroenhancements—that they are unsafe, that they violate the distinction between therapy and enhancements, that they undermine equality, and that they will be used coercively—fail to show why the use of any such technologies is wrong in principle. Two other objections—the arguments that such changes undermine our integrity and that they prevent us from living authentic lives—will condemn only a few of the uses that are proposed. The result is that very few uses of these drugs are morally suspect and that most uses are morally permissible.

**T**he idea of enhancing our abilities through medical means makes many people uncomfortable. Most accept—albeit reluctantly—physical improvement through cosmetic surgery. They may joke about rhinoplasties, breast augmentation surgeries, and liposuction, but few harshly condemn such interventions. But they become much more uncomfortable with the idea of altering genes to improve people, and they squirm at the idea of enhancing our mental functions—our memory, intelligence, mood, and personality—with the use of drugs. People think that altering our brains tinkers with the core of our personalities and the core of ourselves. It changes who we are, and doing so seems wrong, even if the exact reasons for the unease are difficult to define. However, the lack of a clear argument against neuroenhancing drugs has led some to argue that their use should be permitted on the general principle of allowing people to do what they want as long as they do not harm others.

In this paper, I examine the arguments on both sides of the debate. I suggest that most of the arguments against neuroenhancements fail, and the ones that do succeed condemn only a few of the uses that are proposed.

#### THE POTENTIAL FOR NEUROENHANCEMENTS

As others have amply documented, the capability now exists—or soon will exist—to alter many aspects of our mental capacities, both cognitively and emotionally.<sup>1</sup> First, drugs may be able to improve our ability to think. Amphetamines can help people to learn skilled motor tasks, like playing the piano, more rapidly. Cholinesterase inhibitors now help people with Alzheimer's Disease to improve their attention and memory, and better versions may help virtually anyone. Amphetamines, like Ritalin, improve focus, attention, and memory for everyone, not just children with Attention Deficit Disorder. Some drugs may help the formation of long-term memories and thereby facilitate learning. They make difficult tasks, like tackling a foreign language, less formidable. Other drugs seem to target negatively-charged memories, and their use may ameliorate the effects of traumatic events. In doing so, they alter the memories that have formed to lessen their emotional impact, and they thereby help people to return more quickly to normal life. So, the next few years should bring the development of many kinds of drugs that will improve our cognitive abilities in many different ways.

Second, drugs in use and under development can alter people's moods. Selective serotonin reuptake inhibitors (SSRIs) like Prozac improve a sense of well-being of both the depressed and the "normal" (Kramer 1997)—although whether it can significantly improve the moods of normal people is still controversial. But soon drugs almost certainly will be developed that will "brighten" the mood of anyone who takes them. In addition, beta blockers decrease stress and nervousness, and so they help even normal people cope with abnormal situations. Indeed, their widespread use among concert performers is legendary. And newer drugs, like those that block corticotropin releasing factor, help to reduce stress in general. The future, then, will bring drugs that can help people to control their emotional states and personalities.

The basic case for allowing the use of such drugs relies on the principle of autonomy: as long as the drugs are safe and effective and as long as they do not harm others, then individuals should be able to decide for themselves how they should live their lives. As Ramez Naam (2005, p. 6) puts it, "the debate over human enhancements is at heart a debate

over human freedom.” People have a right to the “pursuit of happiness,” and they have a right to control their own means of doing so. Insofar as people are free, they have the moral right to live their lives as they see fit, constrained only by the rights of others to do likewise. If, then, some people think that improving their memory or alertness will make their lives better and no one else is harmed in the process, then it is not immoral for them to do so. More formally, this argument can be expressed in the following way:

- (1) People have a right to autonomy.
- (2) If a person has a right to autonomy, then if she deems something important and if pursuing it does not harm others, then it is morally permissible for her to do so.
- (3) Some people will find that neuroenhancements are important to them.
- (4) Neuroenhancements cause no one else harm.
- (5) Therefore, the use of neuroenhancements is morally permissible.

The keys to this argument are obviously premises (2) and (4). Opponents of neuroenhancements first point to the ways in which they harm other people and thus reject (4). But they also reject the broadly expansive view of autonomy implicit in (2). The American political psyche has a deep strand that extols freedom and individualism in exactly the ways that are captured by (2). But critics need only assert that other values besides autonomy and harm should have some sway, and so they will suggest that (2) is false because it gives no place for other moral considerations. Note, however, that this version of the autonomy argument is relatively strong, since it seeks to assert that the use of enhancements is morally permissible. A weaker version would assert that even if their use was not morally permissible, autonomy requires us to allow people to use them, as long as others are not hurt. In the weaker version of the argument, the use of enhancement drugs would be like smoking: it is morally wrong for a person to harm his body for the transient benefits of nicotine, but as long as others are not harmed, he is free to make that choice for himself. But since I am examining whether a moral case against neuroenhancements exists, I will focus on the stronger version of the argument.

The second argument for enhancements is straightforwardly consequentialist: a world in which people have greater intellectual skills, have sharper memories, and can control their moods is a world in which people are more productive and happier. Because they are more productive, they may be able to accomplish more things in their lives, either by securing a better job or by pursuing other activities that they find rewarding. Thus,

the quality of their own lives can be expected to be higher. But the good effects are not limited to their own lives. People in well-paying jobs generally are in a better position to contribute their time or money to help those who are worse off—although whether they will do so is a different matter. But more importantly, by becoming more productive, they may help to create a prosperous economy that can raise the standard of living for everyone. In addition, insofar as the drugs can simply improve people's moods, they can make people more straightforwardly happy, a feeling that rubs off on others in many different ways, even when the others do not use drugs. Such enhancements would not create a utopia, but they could help to make the world a better place. Importantly, this argument comes with a built-in objection to its opponents: by banning the use of these enhancements, opponents are actively creating a world in which significant opportunities for improvement are missed.

Before I consider how opponents try to answer these arguments, I shall briefly consider one other argument in favor of enhancements, but only so that I can dismiss it. The Inevitability Argument claims that even if the United States were to prohibit the use of neuroenhancements, other countries will develop them and people will be able to obtain them illegally. So, the argument goes, we should simply accept the drugs, rather than morally condemn them. Science marches on, no matter what society thinks (Rothman and Rothman 2003, p. x; Naam 2005, p. 6). Or the claim is that the pharmaceutical industry is so powerful, that we will be unable to prohibit the development and use of neuroenhancements effectively. Or it is that the military has an interest in developing such drugs, so they will be developed for military purposes and then creep into the civilian population (Chatterjee 2004, p. 972). But, whatever the specifics, the inevitability argument simply asserts that if a practice is unavoidable, then either it cannot be morally impermissible or it must simply be accepted. Neither conclusion, of course, follows. Murders will occur regardless of whether there are laws against them, or, more mundanely, drivers inevitably will break speed limits. But there are still reasons to condemn both murder and speeding, and the laws and the moral condemnation may do much to discourage the acts, even if they directly prevent very few. The question, then, becomes whether the best means of discouraging a particular practice is to make it illegal, to condemn it socially, or simply to ignore it. So even if the use of enhancement drugs is inevitable and widespread, there may still be a moral obligation to condemn them. The question under consideration, then, is whether in fact they should be so condemned.

## FOUR FAILED OBJECTIONS

The arguments against neuroenhancements try to show that changing ourselves in the ways these drugs do violates a basic moral norm. Whether that moral norm shows that (2) or (4) in the first basic argument for them is false I consider only briefly, and I do not try to work out how precisely the objection alters the moral calculus of the second basic argument. In addition, I am concerned here only with the question of whether good moral reasons exist to condemn neuroenhancements, and so I only touch on the question of whether the drugs should be permitted even if there are good moral objections to them. The objections to neuroenhancements fall into roughly six categories: (1) Enhancement drugs are unsafe; (2) Such drugs cross a crucial moral line between therapies and enhancements; (3) Such drugs will unjustly increase inequality in our society; (4) They will lead to coercive practices that force many to take the drugs even when they do not wish to do so; (5) They violate basic human dignity; and (6) They prevent people from pursuing genuinely authentic lives. The first four of these objections, I think, fail. The last two are more promising, and so I consider them in a section of their own.

*Safety*

The first argument against neuroenhancements concerns safety. Most of the drugs contemplated have not been tested on large numbers of people, and since they affect people's brains, there is good reason to be cautious about their use. Brains are the locus of our minds, our intellect, our cognitive abilities, and our personalities, all of which are crucial to our identity as persons, whatever one's theory about the nature of persons. People should want, then, to take great care of their brains, and so they will want to make sure any drugs they use will be safe, especially over the long term. Moreover, there is reason to be doubly cautious here: in the past, many "improvements" have been marketed and promoted on very little data and then later proven to be harmful by more rigorous long-term studies. Take, for example, the use of estrogen replacement therapy, which was marketed to postmenopausal women as a means to keep their vitality and youth, but which actually had no cognitive or preventive effects in the long term and increased the risk of cancer (Rothman and Rothman 2003, pp. 67–102). Moreover, even when a drug has its desired effect without direct side effects, it may have unexpected consequences. A better memory, for example, may be debilitating because it keeps us

from focusing on the issues that are more important to our lives (Wolpe 2002). A. R. Luria's (1968) famous S, who had the ability to memorize complex tables of numbers after a few moments, but could not understand poetry, had trouble with abstract concepts, and was disorganized is one example; his capacious memory made it hard for him to focus on bigger projects that frame much of ordinary life. Increased capacities may, then, have surprising tradeoffs.

Yet the argument from safety does not show that we should never use any neuroenhancements. It only demonstrates that we should be very careful with them, that the drugs should be studied rigorously before they are widely prescribed, and that doctors should resist the pressures of drug companies and patients to act before they have full confidence in the safety and efficacy of their use. Such an argument would generate a case against such drugs in principle only if any drug powerful enough to have any lasting effects was bound to be unsafe. But there is certainly no *a priori* reason to think that all effective drugs must be dangerous. Indeed, one of the lessons of the SSRIs is that they are very effective drugs that have very few side effects. And, at this point, many of them have been used without significant long-term problems. Other drugs, like Ritalin, have similarly impressive records. So although safety worries are real and provide good reasons not to use many of these drugs as enhancements *right now*, they provide no argument that we should reject such enhancements in principle.

### *Therapy vs. Enhancements*

One of the most common objections to neuroenhancements is based on a broader objection to enhancements in general. The purview of medicine is therapy, the argument goes, and therapies are used to correct medical problems. The proper goal of medicine is only to restore normal function to people who have been afflicted with a disease that keeps them from living fully normal lives. Anything that tries to go "beyond therapy" to improve people's capacities lies outside what medicine allows and therefore should be prohibited. Marking the distinction between therapy and enhancements, opponents claim, is crucial.

Some commentators simply reject the enhancement/therapy distinction because they find it too muddled to do any useful work (Chatterjee 2004, pp. 968–69; Wolpe 2002, pp. 388–91; Parens 1998). Indeed, the boundary depends crucially on how diseases are defined. When children are short because their pituitary gland malfunctions, they have a disease,

but they seem to have the same problem if they are short because their genes are not configured to make them tall. If being short is an abnormality that keeps people from living fully normal lives in the first case, then it will do so in the second case as well. Indeed, the Food and Drug Administration recently approved the use of human growth hormone in very short children with no other medical problem. (In fact, the evidence suggests that such children will gain very little from years and years of growth hormone treatments (Allen and Fost 2004).) What often occurs is a “diagnostic creep” in which a condition is defined as a disease because an intervention exists to ameliorate it. So what was once considered an enhancement is redefined as a therapy for a newly-characterized disease. Anything that makes us feel better thereby becomes a therapy. At that point, the boundary between what is a therapy and what is an enhancement is completely blurred to the point of uselessness.

Nevertheless, this broad argument against the distinction is, I think, misguided. Although the boundary between therapy and enhancements is murky and fluid, the distinction is nonetheless real. We do not discard the distinction between black and white because there are so many shades of gray that we cannot always draw a clear line between them. Like the distinction between black and white, the therapy-enhancement distinction is useful, even if the boundaries are fuzzy. The distinction might, for example, be important for deciding for which treatments insurance and governments will pay. Because some uses of the drugs do something more than restore a patient to “normal” functioning, we can say that in those cases the drugs are not medically necessary and so we should not expect government or insurance to pay for them. This standard is, after all, the one used for cosmetic plastic surgery. But in cosmetic surgery, the principle of autonomy rules: patients can decide for themselves what is excessive and what is good.

Yet the fact that the distinction between therapy and enhancement is still useful does not show that enhancements are immoral. Even if we define “medicine” as a practice that is *only* concerned with therapies, we might have another practice, call it “enhancedicine,” which offers enhancement technologies to people (Parens 1998, pp. 10–11). The distinction between therapy and enhancement by itself does nothing to explain why the practice of enhancedicine would be immoral. We need a separate argument for that claim. So the objection to enhancements based on the distinction between therapy and enhancement turns out to be completely parasitic on other moral arguments.

*Equality*

One common concern that arises when applying the model of cosmetic surgery to cosmetic neurology is that such surgeries are available only to the rich. If the model holds, then the new neurotechnologies also will be available only to the wealthiest members of society, who then will be able to gain cognitive and emotional advantages over everyone else. All positions of power would be occupied by those who can afford the new drugs and, subsequently, by their children, who will use their increased capacities to acquire skills that will simply be unavailable to others. The poor, unable to afford the drugs, will be left behind. The already-stark inequalities in our society will thus become even worse, and we will end up with two classes of citizens: the neuroenhanced rich and the normal poor.

Defenders of neuroenhancements could dismiss this concern by arguing that our society accepts worse inequalities now. After all, the rich can already afford cosmetic surgery, private schools, special tutoring, music lessons, computer classes, and SAT preparation courses, all of which better position them to take advantage of educational and career opportunities as they arise (Chatterjee 2004, p. 971). But, as Anjan Chatterjee recognizes, this argument really misses the point: if inequality is a problem, then it is a problem that is exacerbated by private school and SAT prep courses too, and as a society we need to discover ways to create fair equality of opportunity for all our citizens.<sup>2</sup> Even if neuroenhancements are only one more factor in a long list of practices that undermine the equality of citizens, this objection should not be dismissed altogether. Insofar as neuroenhancements would increase inequality, they are morally suspect. Some advocates, like Naam, think the inequality is likely to be temporary. The history of new technologies and new drugs, he claims, is that they are available exclusively to the rich only at first; as time passes, they become cheaper and more widely available. Think, most notably, of televisions and computers, which began as luxury toys, but which are now available to almost everyone (Naam 2005, pp. 61–77). But Naam admits that the prices may not drop fast enough before the powerful gain a permanent advantage, and then even he thinks we will need to reconsider the effects of the policy on inequality.

Yet, again, whether the use of neuroenhancements leads to inequalities is a side show. The argument, if it works, is not against neuroenhancements as such, but against one of its effects, and society may be able to address the effect. As Chatterjee notes, access to the drugs, not their availability, is the problem. Everyone thinks that, say, private tutors are good for the

students who need them and that they benefit almost everyone who can employ them. If as a society we value equality, then we should worry that the wealthy are able to afford tutors for their children and thus give them an advantage over similarly situated poor children. And if, as a society, we thought the cost of allowing the inequality was too great, we could solve the problem simply by providing tutors for any student who needs one or who would benefit from one. Indeed, if we can provide tutors for every student who wishes to have one without endangering other social goals, then we should do so. In practice, of course, the money would have to be taken from other social programs or from higher taxes that might harm people in other ways, so the moral equation is quite complex. The problem here is a broad social problem about inequalities in general, and so the advocates of enhancements are correct that it really has nothing to do with neuroenhancements as such. If we had the will to confront inequalities in our society and to make the deep structural changes that are needed to foster genuine equality of opportunity, then we could solve all the problems created by inequalities. We would thereby have the tools to solve any new problems that might be created by neuroenhancements. Chatterjee (2004, p. 972) dismisses the objection from equality because he thinks that, as a society, we simply will not address any of these problems of inequality and so it is simply a case in which the “hand-wringing of ethicists, journalists, and futurists” amounts to nothing. But even if he is correct, the moral objection would still be valid. It would merely show that we as a society suffer from a collective weakness of will. Chatterjee’s view on equality turns out to be another version of the inevitability argument.

Nevertheless, the debate about inequality misses a broader and more important point. Everyone in the debate over tutors agrees that having tutors available is a good thing. The objection is not over tutoring as such. Likewise, the assumption behind the objection that neuroenhancements would create inequalities is that neuroenhancements are good in themselves (Sandel 2007, p. 15). Indeed, if we did not think that neuroenhancements were good, then we would have no reason to worry about them at all. If they are not good and rich people want to waste their money on them, then we would not care in the least. So whatever the merits of the argument about inequality, it rests on the assumption that having neuroenhancements available is a good thing. Such an argument is, however, an odd place to look for a deep moral objection.

*Coercion*

Many people worry that as enhancement drugs become more available and effective that the standards of the workplace will be raised to reflect the new abilities that some acquire through the use of drugs. At that point, others, who otherwise would not wish to use the drugs themselves, would be forced to begin taking the drugs just to keep up with their juiced-up colleagues and competitors. Think of baseball: once steroid-enhanced stars like Mark McGwire and Barry Bonds become a regular part of the game, the pressure on other would-be long ball hitters to use steroids as well is greatly increased. Getting ahead requires their use; soon, keeping up requires it. Or, more importantly, think of the following scenario: military doctors prescribe dextroamphetamines to pilots to help them “to improve performance in sleep-restricted environments” (Russo, Maher, and Campbell 2005, p. 1320). The lives of soldiers may depend on the pilots’ ability to stay awake through long missions, the doctors claim. Generally, soldiers are not compelled to take enhancement drugs—they are not ordered directly to take them—but the suggestion of a commanding officer that a soldier’s life or those in his unit may depend on his use of a drug cannot simply be ignored. Such a suggestion could not help but be coercive. Over time, the problem is likely to become worse: since the drugs are available and since they have been widely used in the past, mission assignments will be made on the assumption that everyone will use the drugs. No longer is it simply a compelling piece of rhetoric to claim that the unit’s welfare and success depend on the drugs; the missions really require that everyone use them. The use of the drugs then becomes a routine part of the mission. Inured to their use in the military, the civilian sectors may use similar tactics to make their own workers more efficient. It will become part of the job to use the drugs that are necessary to do the work at the level required.

Such a relationship does have a coercive element. People are being asked to act in ways they would not otherwise act, to engage in behavior they would otherwise reject, and to become a kind of person they would not otherwise become. On the other hand, many jobs are like that. I am a shy person who never liked talking in front of large groups, but I have had to find a way to change that part of my personality to have a job as a college teacher. It is coercive in the sense that to obtain a new job or to keep the job I have, I have to change the way I act and behave. Indeed, many jobs require people to go through life-altering experiences: college is certainly one such experience—and an expensive one at that—but many

jobs require a college degree, and many of those jobs do not seem to require the kind of intellectual abilities that college nurtures. In addition, many jobs have a “boot camp” of sorts, even if they are not exactly the kind run by the Marines. But more importantly, any job that is more than a job—any job that is part of a “career”—requires a socialization process, a period in which one learns the habits, styles, behaviors, and thinking of a profession. Arguably, such experiences are coercive in the same way that the new drugs would be. Indeed, they are worse in some ways, since these enterprises are almost never undertaken with any kind of consent procedure and the effects of these changes cannot be abandoned simply by stopping a pill.

To claim that these socialization processes are different because they do not involve medicine simply begs the question. Ordinarily, the differences between changes brought about by socialization and those brought about by drugs is a question of risk. Most people think that a college education does no one any harm—although fundamentalist parents confronted with a nonbelieving college graduate whom they barely recognize as their own child might disagree. Drugs, on the other hand, usually carry risks of side effects, so any sign of coercion that would place individuals in a risky situation without their full consent will raise concerns. But if the drugs are indeed safe, there is no reason to regard the drugs as different in principle from any other life-altering experience, and the coercive element looks more like that involved in any decision that has significant economic consequences.

Even so, how coercive we think such practices are depends on the alternatives. Even if the only way for women to succeed in Hollywood is to have breast augmentations, there are other jobs available that do not require such intervention, and many of those jobs pay as well as acting. The real problem with breast augmentation surgery has little to do with the coercive aspects of the practice and more to do with the attitude toward women and their sexuality that is expressed by Hollywood and the surrounding culture (DeGrazia 2005, pp. 215–18). Military uses of enhancements are more tricky, precisely because once individuals join the military, they cannot simply quit because they do not like what they are being asked to do. The whole institution is coercive, even if there are alternatives. In general, then, as long as plenty of reasonably equivalent alternatives exist to jobs that require neuroenhancements, then coercion is not the real issue. Of course, where no such alternatives exist, coercion may be a problem. But like breast augmentation surgery, the problem may lie in the cultural institutions that surround the jobs that require

enhancements rather than in the enhancements themselves. If, however, using neuroenhancements is morally suspect on other grounds, then any kind of compulsion to employ them, even if it is benign, will be morally problematic. So, once again, the real issue is whether there are other grounds for moral objections. Coercion too is a side issue.

#### HUMAN DIGNITY AND AUTHENTICITY

The last two objections—that enhancements undermine human dignity or that they make an authentic life impossible—get to the core of the issue, and so both need careful consideration. Both, I think, raise serious problems with the use of neuroenhancing drugs, but the arguments do not justify a broad ban on their use.

##### *Human Dignity*

Neuroenhancements are thought to undermine human dignity by treating people in a way the belies our status as rational creatures. So, for example, some argue that the drugs make changes too easy, thereby undermining the lessons of hard work and discipline. Overcoming obstacles builds character and makes us all better people. People want to achieve a certain end, but the means by which they do so makes a difference to the complete end that they achieve (Cole-Turner 1998). Of course, we institute changes in our personalities all the time, so the worry here is about the means and not the ends. Chatterjee (2004, p. 971) claims that this view is hypocritical since the same can be said about taking Tylenol for headaches and using air conditioning on hot days. Peter Kramer (1997, pp. 274–75) calls this worry about the use of drugs “pharmacological Calvinism,” an irrational Puritanism that values suffering and eschews any solution that does not involve pain and sacrifice. Although Chatterjee and Kramer are right to think there is no reason to oppose the use of drugs just because they make a solution to some of life’s problems easy, they both miss the underlying objection here. Opponents see a significant difference between technological improvements like air conditioning and pharmacologic interventions like Advil and neuroenhancement drugs, because for some tasks, the means make a difference. The objection is often badly expressed, but the feeling is that there is something wrong with manipulating ourselves in the way that neuroenhancing drugs do.

Michael Sandel (2007, p. 27) claims that enhancements undermine our dignity by destroying the appreciation of the “gifted character of human powers and achievements.” To recognize the giftedness of human nature

is to acknowledge the limits of human power, to understand that “our talents and powers are not wholly our own doing,” and to realize that the world is not within our control (Sandel 2007, p. 27). We must instead cultivate an “openness to the unbidden” (Sandel 2007, p. 45). The desires to program ourselves and to control every aspect of our lives “represent the one-sided triumph of willfulness over giftedness, of dominion over reverence, of molding over beholding” (Sandel 2007, p. 85). Much of what is valuable in life, Sandel suggests, is not the result of a plan, but the result of qualities we simply find by accident in ourselves and others. We should not want to control everything in our lives, and we lose much of value in our lives when we try to control too much.

Sandel is not mistaken to emphasize the value of the unplanned, the given, and the unexpected. The question is the extent to which using neuroenhancements will in fact eliminate this aspect of human life. Many technologies, from irrigation and permanent settlements to airplanes and air conditioning, have done much to increase the ability of humans to control the unexpected in their lives. Undoubtedly, those technologies have had a cost: many people have never experienced, for example, the starlit night undimmed by street lights or the taste of homemade bread fresh from the oven. But we gain new wonders: pictures of Earth from outer space, the ability to hear a Mozart symphony with the touch of a button, and tastes imported from all over the world. Control in some parts of our lives has simply opened new vistas to marvel. So to argue that the new neuroenhancement technologies would debase our lives, Sandel would have to claim that the new drugs are somehow different in kind from past forms of life-enhancing technologies. If the new technologies could in fact eliminate our ability to appreciate the unexpected or eliminate the unexpected itself, then he would have a case. But neither seems possible. None of these technologies eliminates chance and none eliminates the ability to experience wonder; indeed, an improved memory and mood may well allow many individuals to experience wonders that would otherwise be unavailable to them. So Sandel’s concerns also do not provide any reason to reject neuroenhancements as such.

A better way of thinking about the objection from dignity is to invoke Immanuel Kant’s (1785, Ak. 430) principle to “act so that you treat humanity, whether in our own person or in that of another, always as an end and never as a means only.” We must never merely use people for a particular end that we may desire; we must always treat people—ourselves included—as ends in themselves, as creatures deserving dignity. When I

use Tylenol to relieve a headache and when I enjoy the cool indoors away from a Texas sun, I am not violating Kant's dictum because nothing I do touches who I am in any deep way. But when I take a drug that alters my personality, then I use an external means to alter the core of my identity. In doing so, I manipulate myself in a way, the critics claim, that is disrespectful of the person that I am.

Applying the Categorical Imperative to ourselves in the way this argument requires is, however, difficult (Korsgaard 1996). When applied to others, we generally think that we respect individuals' humanity if they will freely consent to our actions. So, although I use the cashier at the grocery store as a means, I do not use him *merely* as a means because he has consented to occupy that position, and the fact that I shop at this grocery store furthers his ends by helping to pay his salary. If I ask him if he will consent to being used as a means, he would readily agree—assuming he understood what I was asking (in real life, he would probably call the police). Obviously, in the case of the neuroenhancements, the person is using the drugs willingly, so consent is not the issue. However, we can sometimes use someone as a mere means even if he agrees to it. The young executive who is desperate for a friend may consent giving someone the use of his season tickets to a Cardinals game even though he knows the person cares nothing for him and only pays him any attention to get the tickets. Arguably the executive degrades himself in so acting; he fails to show any respect for his own worth as a person. Similarly, a prostitute degrades herself when she accepts money for sex, because she fails to respect herself as manifested in her own sexuality. Unlike most other forms of labor, one could argue, sex work is inherently tied to the prostitute's identity as a person.<sup>3</sup> She simply cannot divorce her identity from her sexuality in the way that prostitution requires without severing a vital part from herself. Of course, neither the friendless man nor the prostitute should be criticized the person too harshly; their circumstances make the degrading acts seem worthwhile to them, so they seem more pathetic than venal. But in both cases their actions can be morally condemned. In principle, then, actions that harm no one except the people who choose them can still be criticized morally.

Neuroenhancements fall into this category, however, only if their use similarly demeans those who use them. Such a claim certainly has more traction in neurological agents than in any other enhancements. People simply do not worry about the new forms of dental treatment to make their teeth better, and even cosmetic surgery is viewed more with contempt

than with moral concern. Increasing muscle mass through steroids and altering appearance through cosmetic surgery change only their exteriors. But changing their brains arguably changes who they are. Brains are more closely connected to people's personality and to the core of their selves than anything else. Whatever theory of personal identity is correct, a central aspect of human identity must be connected to people's memories, their long-lasting character traits, and—importantly—their second-order desires about what kind of person they want to be.<sup>4</sup> Because changing their brains can alter this core of their selves, there is good reason to be wary of anything that does so.

Yet the mere fact that neuroenhancements can cause such fundamental changes is not a reason to think that using them necessarily debases people. Psychotherapy can lead to similar kinds of changes, as can religious conversions and boot camps. Precisely because these processes can alter key elements of a person's identity, outsiders often do regard them as degrading; they think of them as forms of brainwashing. They think that the person does not appreciate and appropriately value who she is, and so they think she is going through a needless process to correct a problem that does not exist and that does not require such dramatic changes. But the views of outsiders are not, of course, evidence that such changes are irrational or demeaning (Dees 1996). Indeed such changes are often regarded as heroic achievements. The individuals involved usually work hard to achieve basic changes in their personalities through these means, and they think the changes reflect an effort to become a better person and to live up to an ideal they have of themselves. Because such changes ordinarily require tremendous effort, they also require a genuine commitment. Conversions are never easy: even Saul of Tarsus required three days of blindness and fasting and the help of many friends to become Paul the Apostle (*Acts* 9: 1–31). Religious conversions and psychotherapy require the kind of commitment that shows that the person is not simply playing with her personality, but has a serious desire to change. The person has to *want* the change and want it badly; she has to be willing to work for it. The person thereby demonstrates the depth of her second-order desire for change by the effort she is willing to undertake to achieve a new personality.

Because in the past efforts to enhance ourselves required hard work and self-discipline, which were themselves virtues (McKenny 1998), any deep changes could be guaranteed to reflect something that the person deeply believed was right for herself. Part of the discomfort with neuroenhancements is that the drugs make personality-altering changes so simple that

they can be done on a whim; a person does not have to want a change very much to pop a pill and make it so. Her personality then becomes a mere toy. But when the core of a person's identity becomes a mere plaything, then she has indeed ceased to take herself seriously (Frankfurt 2006).

Yet this argument, as powerful as it is, has a limited scope: it only condemns the use of neuroenhancements that alter people's core personality, so it does not obviously apply to drugs that just improve a person's memory or merely brighten his mood. And the argument clearly works against the personality-altering drugs only insofar as people use them heedlessly. With the ability to achieve potentially-permanent changes with drugs, society may want to have some safeguards in place. Just as sex-reassignment surgery is allowed only after extensive psychiatric evaluations, we as a society may want to require psychiatric monitoring for some forms of neuroenhancements to ensure that the person is truly committed to change. In principle at least, this argument could go even further to prevent the use of neuroenhancements by people who merely *think* they want to undergo a fundamental change, but whose core personality tells against it. In practice, however, such an argument would face insurmountable epistemological problems: no outsider—not even a spouse or a long-term therapist—could know enough about a person to claim that any proposed change does not reflect the person's most cherished second-order desires. So, in practice, if the change is well-considered, then the use of the drugs would be morally acceptable on this view. The argument from dignity, then, amounts to a call for caution, not a bugle for banning the use of neuroenhancements.

### *Authenticity*

The most common—and the most powerful—argument against enhancements is that they prevent individuals from living authentic lives. They alter people in ways that take them away from their “true selves” and away from a life of genuine value. This argument has particular resonance against neuroenhancements that can fundamentally alter an individual's personality and create what critics would consider an inauthentic life with artificial happiness.

Traditionally, this objection is posed as the claim that one practice or another is “unnatural.” Such arguments, although popular, raise more questions than they answer. What is “natural” is notoriously difficult to define—especially since what is needed is a definition that does not imply that flying in airplanes counts as unnatural. Such a view requires, then, a

*moral* definition of nature, which can specify when an action crosses the line between an acceptable technological improvement and an immoral innovation. But put in this way, calling an act “unnatural” is simply another way of claiming that it is immoral. So rather than parse the meaning of “nature,” I will simply focus on whether the use of enhancements is immoral.

The best way to think about how this objection works is to consider an extreme case and work back to enhancements. Imagine there exists what Robert Nozick (1974, pp. 42–43) calls an “experience machine”:

Suppose there were an experience machine that would give you any experience you desired. Superduper neuropsychologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book. All the time you would be floating in a tank, with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life’s desires? . . . Of course, while in the tank you won’t know that you’re there; you’ll think it’s all actually happening. . . . Would you plug in? *What else can matter to us, other than how our lives feel from the inside?*

The experience machine could give you the feeling of being happy, the sensation of climbing Mount Everest, or the experience of finding a cure for cancer. You could even hook yourself up to the machine continuously and live any life you want in your head. You could be the most famous person in the world, and you would even believe that you had achieved everything yourself. Such a life would, of course, be a fake, and Nozick thinks that for just that reason, everyone should reject it. But if we reject it, then we must conclude that our feelings and even our perceptions about our lives, although important, are not sufficient to make our lives good. We want to live our lives, and we want truly to accomplish things. The mere semblance of achievement is not enough. Feeling good is not enough. Living in my own head is not enough. True happiness requires something more. Such a claim is, of course, hardly new: philosophers as diverse as Aristotle and John Stuart Mill have argued for it. The life of mere pleasure, Aristotle (*Nicomachean Ethics* 1095b15–25) claims, is an empty life. Or, as Mill (1979 [1861], pp. 7–11) puts it, it is better to be human dissatisfied than a pig satisfied and better to be Socrates dissatisfied than a fool satisfied.<sup>5</sup> Both embrace the view that humans should strive for happiness; they just regard happiness as a complex state that goes beyond how people feel and what is inside their minds. Happiness, then, requires authenticity.

This argument implies that even if a drug can make a person feel happy or make her feel that she have accomplished great things, no drug can make a person genuinely happy. A drug can create a feeling of contentment or ecstasy, but it cannot create happiness. Oddly, however, this argument does not help to build a case against neuroenhancements. The fact that producing happiness with drugs is conceptually impossible does not imply that people are morally wrong to try to do so. They may be imprudent or silly, since they cannot possibly succeed, but they need not be admonished any more than someone who tries to defy the laws of gravity.

Of course, a person can live an authentic life—a life that is true to himself—only if he takes himself and his life in the world seriously. As Charles Taylor (1991, p. 74) notes,

Like other facets of modern individualism—for instance, that which calls on us to work out our own opinions and beliefs for ourselves—authenticity points us towards a more self-responsible form of life. It allows us to live (potentially) a fuller and more differentiated life, because more fully appropriated as our own. (Also see Elliott 2003, pp. 28–53.)

An authentic life, Taylor claims, is one for which the person himself must take full and complete responsibility. Creating such a life, Taylor (1991, pp. 66–67) argues, involves the individual in a quest of self-discovery and an effort to fashion his own identity, but always in dialogue with others in his life. So an authentic life is created from what a person is as a human being, from what he is as an individual, and from what he chooses. The claim, then, is that enhancements undercut this process. On the assumption that neuroenhancements would be given only to those who freely consent to use them, they do not seem at odds with our ability to choose. Indeed, unless the drugs would inhibit people's ability to make choices, they are paradigmatically a matter of choice. The question then becomes whether such enhancements undermine people as individuals or as humans because they would “sever the link between feelings of happiness and our actions and experiences in the world,” as the report of the President's Council on Bioethics (2003, pp. 207–8) puts it. The Council's worry has two components: because the drugs disconnect me from my experience, they worry both about whether I am the same person when I use a drug and about whether that experience is real and properly “mine.”

So, first, the Council worries that the person I become on a drug is not really me. No one takes too seriously the drunk's profession of love or his anti-Semitism—even though both probably express some deep-rooted feelings—because they do not reflect his considered views. They do not, then,

reflect his true self. So, the Council suggests, the professions of someone on Prozac should be similarly suspect. But this worry seems misplaced. The drunk will repudiate what he says the next day; the person on Prozac will not. Indeed, like Kramer's (1997, pp. 147–48) patient, Sally, the individual off Prozac may well express a desire to be the person she is when she is taking Prozac. Sally thus has a second-order volition to be the sort of person who can express love in the way she does when she takes Prozac. She is only herself, she thinks, when she is on the drug. Taking Prozac, then, is the best means for fulfilling her second-order desires (Frankfurt 1971). Indeed, someone might use alcohol in the same way—like the boozier that Dean Martin pretended to be: the boozier's true self is the half-drunk joker, not the sober bore. So if the person she becomes on Prozac reflects who she wants to be, then the drug alters her desires according to her own plan, and it is no different in its effect than a religious conversion or boot camp. An ethical problem would arise only if someone is forced to take a drug that altered her second-order desires as well as her first-order desires, so that her personality changed and the drug also caused her to accept those changes. But here the ethical problem lies in the coercion, not in the change in personality as such.<sup>6</sup>

The second concern of the President's Council is whether what I experience using the drugs are really *my* experiences. In one sense, they obviously are: I experience them *as mine*. But like Nozick's experience machine, the experiences may not connect me to reality in the right way, they may give me the illusion that I have done something important, and they may thereby cut me off from real accomplishments. The key is the last of these claims: insofar as enhancements undercut real achievements, they do not actually help the person. Having the experience of winning a Nobel Prize is not the same as winning the Nobel Prize, even if it feels the same, no more than owning a faultless copy of a Rembrandt is the same as owning an actual Rembrandt. The drugs can only produce ersatz rewards, and so the "enhanced" person does not have a good life, a life of true happiness. The problem arises because the feelings associated with the accomplishment are separated from the accomplishment itself. I feel proud when I have done nothing for which I should feel proud. That disconnect is bad in itself; it is the paradigm of inauthenticity. But that disconnect also takes away one of the important incentives for actually achieving anything at all. If I can experience the feeling of a job well done without doing the job well, then I will not even achieve what I am capable of achieving. As the President's Council (2003, p. 260) puts it, "a

mood-brightening drug that always made us pleased with ourselves no matter what we did—a drug that guaranteed our self-esteem, even when such esteem is not warranted—might shrink our capacity for true human flourishing.” Even my relationships with others sometimes requires failure so that I can learn how to interact with others. Indeed, it even requires the possibility of profound failure, of deep loss, and of grief. To know the joys of deep love requires the possibility of deep sorrow at its loss. Otherwise, love does indeed become just a game that we play (President’s Council 2003, pp. 258–60).

Living a good life, then, requires that a person’s feelings and achievements reflect reality adequately. Oddly, we do not want a completely accurate rendition of reality: the depressed often have a more accurate picture of themselves than the healthy. Everyone—and not just everyone in Lake Wobegon—has to think of himself as “above average” in some important way. But his achievements and his relationships must be real before he can live a truly good and happy life. So, the use of enhancements to separate people from the real world is morally bankrupt.

However, enhancement technologies need not disconnect us from reality. A drug that enhances our memories does not generate fake memories and it may make us more productive. As long as we do not pretend that our new memory is itself a personal achievement, we can keep its effects in perspective. Indeed, keeping such a perspective is not difficult: no one thinks herself special because she can fly higher than a bird in a plane or because she can go faster than a cheetah in a car. We use airplanes and automobiles as tools to get places faster and so that we can focus our time and attention on other things that we think are more important than crossing a continent by foot. Such technologies do not make our lives unreal, nor do they undermine our achievements; they merely redefine our achievements. We can still admire someone who walks from Los Angeles to New York, but we do not condemn the person who flies from Los Angeles to New York to attend a professional meeting as “weak,” nor do we think she has cut herself off from a meaningful life. She must simply earn our admiration for what she actually accomplishes in her life, and not for traversing 2000 miles.

Of course, future research may produce a Prozac-like drug that would make us feel good, no matter what—Aldous Huxley (1932) called it “soma.” The critics are correct that such a drug would do us a disservice by divorcing us from real life. Many people might nonetheless wish to take such a drug, just as many people in Huxley’s world pop soma every day. Because such a drug might prove so attractive and because its

use may leave people with few incentives to improve themselves and to work in ways that would be useful to society, society has good reason to condemn its use. Indeed, society may even have strong enough reasons to ban it. But few of the enhancements being considered would have this kind of effect.

The arguments that we should condemn—and perhaps ban—neuroenhancements because they interfere with people’s ability to live authentic lives seems suspect to some, because they seem to depend on a substantive view about what counts as a good life. Often, arguments in bioethics seek to avoid controversial claims about what contributes to human flourishing on the grounds that we should not impose any one view of the good life on others. Such a view implicitly promotes the value of autonomy over the values of flourishing, and as such, it too makes substantive claims about values. But that controversy belongs in a different place. The relevant point here is that the arguments I have made are not neutral between all views of the good; they do in fact depend on substantive claims about what constitutes a flourishing life—or rather, they depend on substantive claims about what is *not* a flourishing life. Here I need only claim that a good life must be connected to the reality of people’s lives and to the reality of their own accomplishments. Such a view makes a substantive claim about a good life, but it is not particularly controversial. It is compatible with many, very different views about what exactly the aims of life should be and about how people should find meaning in their lives.

Yet even if a happy life or an authentic life cannot be created by a drug, some of its components might be, and they can be without distorting people’s view of the world. Drugs can help people obtain certain instrumental goods, especially where the means by which those goods are acquired are not particularly important. So, for example, an improved memory may help me recite the Shakespearean sonnets that I have always wanted to learn by heart, thereby giving me both direct pleasure from the poems and indirect pleasure from my increased mastery of important literature.<sup>7</sup> Or drugs that improve memory may help me get and keep a sales job; it may even give me a competitive advantage that allows me to become an especially effective product representative. The sales job itself is not intrinsically valuable, but it provides some opportunity to exercise my higher faculties and social skills, and it provides me with the means both to survive and to have time and money available to exercise and develop virtues and other higher faculties of the mind if I so choose. Jobs mostly serve an instrumental function: people do their jobs as efficiently as pos-

sible, and as long as no one is directly harmed in the process, the means are not particularly important. The use of drugs to help people do their jobs better, then, does not seem to prevent them from leading authentic lives. In these cases, the use of drugs does not purport to produce happiness itself, but it simply offers another means to achieve a goal, which allows people to focus on what is most important to them.

Some activities, of course, do require that we renounce enhancements. The Tour de France and the 100-meter dashes are supposed to be tests of training, grit, and skill, not competitions between pharmaceutical chemists. Likewise, *Jeopardy* contestants are supposed to demonstrate their command of arcana, not their ability to choose the proper pill. Such enhancements would undermine the very nature of the competitions (Sandel 2007, pp. 36–44). We can debate whether a particular technology or innovation violates the spirit of a game—personally, I think designated hitters in baseball are a sacrilege, but fans of the American League seem to disagree—but some cases will be quite clear. The use of neuroenhancements in these kinds of cases is, then, wrong. But most of life does not fall into this category. For few jobs would the use of neuroenhancements violate the spirit of the enterprise. Indeed, given the cutthroat competition that pervades much of modern capitalism, such measures are wholly in keeping with its spirit. If their use is wrong, then, it cannot be for that reason.

In other cases, the use of drugs would inhibit the learning of skills that people should learn. Even though the use of calculators is not morally suspect, first graders should not be allowed to use them to do their addition homework. They need to understand the basic principles of arithmetic and to hone the broader reasoning skills that mathematical thinking instills before they are permitted to use calculators. Similarly, memory drugs should not be used to replace the skills needed to learn new materials. But, like the use of calculators, the use of memory drugs can be criticized only in a few activities that are limited in scope.

So, once again, the arguments against the use of neuroenhancements only go so far. The argument from authenticity shows that the use of drugs that tend to disconnect us from reality can be condemned morally, but few of the drugs contemplated go so far. As long as the drugs are not used in competitive situations in which they are inappropriate, the use of drugs that, for example, enhance our memories and make us feel better may be legitimate. Thus, whether an enhancement technology threatens the ability to live a good life will depend on what exactly its effects are. Thus, as a society, we need not have a blanket policy about all forms

of neuroenhancements; we need instead a more nuanced view. For that reason, we will need to look at each technology case-by-case to see how it will be used and whether it could undermine a person's ability to live a good life.

#### CONCLUSION

Most of the arguments typically made against the use of neuroenhancements, I have argued, fail: they simply do not show that the use of neuroenhancements has inherent moral problems or that they lead to unacceptable consequences. However, some neuroenhancements do, I contend, have the potential to separate people from reality so that they can no longer live authentically good lives. But even in the speculative world of neuroenhancements, such uses are rare. Few of the technologies being touted as the wave of the future would have such effects. If and when the drugs become safe, then many of these drugs may become morally permissible to use in many contexts. Only in a few contexts should their use be condemned.

#### NOTES

1. For a summary of the scientific evidence that follows, see Chatterjee (2004); Naam (2005, pp. 42–60, pp. 172–234); President's Council (2003, pp. 205–73).
2. For the crucial role of fair equality of opportunity and what it requires, see Rawls (1971, secs. 12–14).
3. One consequence of this argument is that other forms of work, particularly those that dull the senses and actively stifle creativity, should be regarded as degrading as well. Interestingly, Adam Smith (1776, V.i.f.50) himself accepted this view: He worried that the mind-numbing effects of factory work made people less than human, and he argued that government must do something to ensure that these workers had other means by which to maintain their dignity.
4. For a discussion of the role of second-order desires in identity, see Frankfurt (1971).
5. Even Kant (1788, Ak.110) contends that the best life for a person—the perfect good—is a life of contentment conjoined with virtue, which makes a person worthy of being happy.
6. Of course, this case also raises difficult questions about whether undoing the effects of the coercion would be justified since now the person no longer wishes to change back. These questions are, however, exactly the same ones

we ask about whether a “deprogramming” regimen is justified after someone has been “brainwashed.”

7. I owe this example to an anonymous reviewer for the *Kennedy Institute of Ethics Journal*.

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