

Biomedical Moral Enhancement in the Face of Moral Particularism

PEI-HUA HUANG AND PETER SHIU-HWA TSU

Abstract

Biomedical moral enhancement, or BME for short, aims to improve people's moral behaviour through augmenting, via biomedical means, their virtuous dispositions such as sympathy, honesty, courage, or generosity. Recently, however, it has been challenged, on particularist grounds, that the manifestations of virtuous dispositions can be morally wrong. For instance, being generous in terrorist financing is one such case. If so, biomedical moral enhancement, by enhancing people's virtues, might turn out to be counterproductive in terms of people's moral behaviour. In this chapter, we argue, via a comparison with moral education, that the case for the practice of biomedical moral enhancement is not weakened by the particularists' stress on the variable moral statuses of the manifestations of our virtues. The real challenge from the particularists, we argue, lies elsewhere. It is that practical wisdom, being essentially context-sensitive, cannot be enhanced via biomedical means. On the basis of this, we further argue that BME ought to be used with great caution, for it may wrongly enhance, for instance, a terrorist financier's generosity, a robber's courage, or an undercover detective's honesty. Finally, we sketch how boundaries can be set on the use of BME, and address some potential objections to our position.

1. Introduction

Biomedical moral enhancement, or BME for short, aims to improve people's moral behaviour through improving, via biomedical means (e.g., drugs or genetic engineering), their virtuous dispositions or positive moral character traits such as honesty, sympathy, courage, or generosity. Supporters of BME have held out the hope that through massive biomedical moral enhancement, human beings' immoral behaviour can be significantly reduced and moral behaviour significantly increased. For instance, Julian Savulescu and Ingmar Persson, the staunchest champions of BME, have repeatedly emphasised that the problem of global warming would be significantly mitigated if we were less selfish and more environmentally friendly. Moreover, the pernicious effects of religious fundamentalism could be significantly weakened if we were more open-minded and less

dogmatic. Finally, the problem of poverty would also be less severe if we were more caring, benevolent, sympathetic, and generous.¹

In light of this, the cultivation of human virtues and the improvement of moral behaviour are obviously important catalysts for the creation of a better world. And traditional moral education has, without a doubt, played an indispensable role. However, we human beings often fall well short of what moral education aims to achieve – turning us into morally better people who can live up to our moral obligations. As things currently stand, children die due to lack of clean water and food, wars are waged based on dogmatic ideologies, and the environment is polluted thanks to our greed for economic growth. If our world is not to go from bad to worse, there is an urgent need to morally enhance humans – the major source of all these evils. If traditional moral education does not achieve its aim successfully we cannot afford to give up, but should instead seek the help by every other possible means.

The rapid development of biomedical research seems to provide glimmers of hope where traditional moral education has hit a snag. It is believed that through biomedical means such as drug use, we can greatly boost people's virtuous dispositions and their moral behaviour.² For instance, Ritalin, a drug typically used for the treatment of ADHD, is believed to be capable of enhancing self-control.³ SSRIs (selective serotonin reuptake inhibitors), on the other hand, seem to significantly boost people's willingness to co-operate and reduce their tendency to harm others. Finally, oxytocin is reportedly capable of enhancing people's trust and generosity. In light of these biomedical discoveries, a wide administration of these drugs seems

¹ See Ingmar Persson and Julian Savulescu, 'The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity', *Journal of Applied Philosophy* 25:3 (2008), 162–177; Persson and Savulescu, *Unfit for the Future: The Need for Moral Enhancement* (Oxford: Oxford University Press, 2012); Persson and Savulescu, 'The Duty to be Morally Enhanced', *Topoi* (2017), <https://doi.org/10.1007/s11245-017-9475-7>.

² For a more detailed review of pharmaceuticals that are known to be effective in modulating moral behaviours, see Neil Levy, et al., 'Are You Morally Modified? The Moral Effects of Widely Used Pharmaceuticals', *Philosophy, Psychiatry, and Psychology* 21:2 (2014), 111–125.

³ It is to be noted that although according to Aristotle self-control is not a virtue, Aristotle certainly would not deny its importance for the production of morally right behaviour on many occasions. For instance, it is certainly required for the ethical behaviour of a man who lusts for his friend's wife.

to stand a chance of preventing our world from deteriorating. If so, why not give it a try? Indeed, several BME supporters have called on the government and the general public to seriously consider such a measure.⁴

This well-meaning proposal, however, soon encountered numerous objections. To begin with, as the BME supporters themselves readily recognise, whether the drugs can achieve their intended effects of moral enhancement remains controversial.⁵ For instance, it is not entirely clear whether oxytocin can really increase people's trust and generosity in general or rather just promote in-group parochialism instead.⁶ To make things worse, many of the experiments in support of BME cannot be replicated.⁷ And, as with other drugs, there is always the concern about side effects.⁸

On a societal level some also worry that the enforcement of the BME programme may eventually lead to an unequal moral status between the enhanced and the unenhanced. To further elaborate, when compared to the morally enhanced, the unenhanced might well be classified as morally inferior citizens, prevented or even banned from taking part in many political activities such as voting or running for political positions, etc.⁹ On top of this, it is also worrying that the executors of the BME programme might abuse it to serve

⁴ Persson and Savulescu, 'The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity'; *Unfit for the Future: The Need for Moral Enhancement*; Thomas Douglas, 'Moral Enhancement', *Journal of Applied Philosophy* 25:3 (2008), 228–245.

⁵ See Persson and Savulescu, 'The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity', and *Unfit for the Future: The Need for Moral Enhancement*, for instance.

⁶ See Carsten De Dreu, et al., 'Oxytocin Promotes Human Ethnocentrism', *Proceedings of the National Academy of Sciences* 108:4 (2011), 1262–66. Recently it has even been argued that tinkering with some dispositions via biomedical means might actually lead to adverse effects on others. See Toby Handfield, Pei-Hua Huang, and Robert Mark Simpson, 'Climate Change, Cooperation, and Moral Bioenhancement', *Journal of Medical Ethics* 42:11 (2016), 742–747.

⁷ Anthony Lane, et al., 'Failed Replication of Oxytocin Effects on Trust: The Envelope Task Case', *PLoS One* 10:9 (2015), e0137000.

⁸ See, for example, Peter Ahmann, et al., 'Placebo-Controlled Evaluation of Ritalin Side Effects', *Pediatrics* 91:6 (1993), 1101–1106.

⁹ Nicholas Agar, 'Why is it Possible to Enhance Moral Status and Why is Doing So Wrong?', *Journal of Medical Ethics* 39:2 (2013), 67–74; Allen Buchanan, 'Moral Status and Human Enhancement', *Philosophy & Public Affairs* 37:4 (2009), 346–381.

their own political agenda. SSRIs, for instance, might be misused to make the recipients less critical about issues they would otherwise deem unjust.¹⁰

Finally, some even suggest that BME will deprive people of their ‘freedom to fall’,¹¹ leaving people in a state much like the scenario depicted in Skinner’s utopian *Walden Two*, where its citizens are peace-loving farmers that are genetically engineered and behaviourally conditioned to love music and arts.¹² Despite a seemingly pleasant existence there seems to be something demeaning about it; that is, residents of Walden Two do not seem much different from programmed robots.

Whether or not the above-mentioned objections and concerns can be successfully addressed has already received a lot of attention in the literature.¹³ Our essay is not particularly concerned with adding to that, except in passing. Instead we focus on a particular line of objection that has been thought to pose a serious threat to BME but has not yet been sufficiently dealt with.¹⁴ According to this objection, the change of behaviour resulting from BME is not necessarily a moral improvement. For instance, being more generous with the help of oxytocin is indeed a good thing most of the time, yet under certain circumstances being generous is not something a moral person should be, especially in the case of dealing with terrorists. To give

¹⁰ John Harris, ‘Moral Enhancement and Freedom’, *Bioethics* 25:2 (2011), 102–11; Robert Sparrow, ‘Better Living through Chemistry? A Reply to Savulescu and Persson on “Moral Enhancement”’, *Journal of Applied Philosophy* 31:1 (2014), 23–32.

¹¹ A phrase used in John Milton’s *Paradise Lost*. See Harris, ‘Moral Enhancement and Freedom’.

¹² See Robert Kane, *A Contemporary Introduction to Free Will* (Oxford: Oxford University Press, 2005), 3.

¹³ For an in-depth review of moral enhancement see Jona Specker, et al., ‘The Ethical Desirability of Moral Bioenhancement: A Review of Reasons’, *BMC Medical Ethics* 15:67 (2014): <https://doi.org/10.1186/1472-6939-15-67>.

¹⁴ See especially Sparrow, ‘Better Living Through Chemistry? A Reply to Savulescu and Persson on “Moral Enhancement”’, 5; Robert Sparrow, ‘Egalitarianism and Moral Bioenhancement’, *American Journal of Bioethics* 14:4 (2014), 20, 21. See also, Thomas Douglas, ‘Moral Enhancement’, in Julian Savulescu, Ruud ter Muelen, and Guy Kahane (eds), *Enhancing Human Capacities* (Blackwell: Oxford, 2011), 467–485. It is worth mentioning that although Douglas, a supporter of BME, acknowledges this line of objection, he does not really address it but merely sets it aside.

another example, while it is generally good to be sympathetic, one can wrongly sympathise with someone who does not deserve it. So in enhancing people's virtues such as generosity or sympathy, BME does not necessarily help bring about moral behaviour. We call this style of objection "the objection from particularism", as it stresses the variability of the moral statuses of the manifestations of the virtues and dovetails with the general thrust of moral particularism, which we will explain later.

The plan of this essay is as follows. In section 2, we will introduce the idea of moral particularism in more detail, and further explain how an objection derived from it poses at least a *prima facie* threat to BME. In section 3, we defend BME against this objection via a comparison with moral education. In section 4, we argue that the real lesson to be learned from moral particularism is that practical wisdom, being context-sensitive and essentially concerned with the particulars of moral circumstances, cannot be enhanced via biomedical means. This is because biomedical agents can merely serve to enhance behavioural dispositions to perform certain types of context-insensitive behaviours – behaviours that are insensitive to the morally salient features of particular circumstances. In section 5, we will propose where to set boundaries on the use of BME. Finally, in section 6, we will clarify and defend our position by addressing several potential objections.

2. Moral Particularism and Why it Poses a Threat to BME

Moral particularism has certainly cut much ice with analytic ethicists over at least the past two decades. The basic idea goes all the way back to Aristotle, who claimed that the major function of *phronesis* (i.e., practical wisdom) is to discern moral truths via the particulars of circumstances rather than through universals (i.e., moral principles).¹⁵ More recently the doctrine of moral particularism has been understood differently by different philosophers. But, very roughly, it upholds the view that moral principles of one sort or another do not play any essential role in our moral life.¹⁶ Applied to the area of moral values, it supports the view that the moral

¹⁵ Aristotle, *Nicomachean Ethics*, VI.

¹⁶ The passage from the beginning of this section is adapted from Peter Shiu-Hwa Tsu, 'Particularism in Ethics', in Duncan Pritchard (ed.), *Oxford Bibliographies Online* (Oxford: Oxford University Press, 2018): <https://www.oxfordbibliographies.com/view/document/obo-9780195396577/obo-9780195396577-0367.xml>.

values of things such as properties or actions, by and large, cannot be expressed in terms of moral principles; what is morally good in one context may not be so in another, and may even come to be morally bad.¹⁷ For instance, according to moral particularists, a principled value statement such as “pleasure is good” or “pain is bad” does not always hold true. In fact, there are cases in which these statements seem apparently false. For instance, there does not appear to be anything good about sadistic pleasures. And pain does not seem to be obviously bad when it is well-deserved by a depraved and vicious person.

According to moral particularists, not only can natural properties such as pleasure and pain change their values in different contexts, but so can those “thick” properties of virtues, such as generosity, courage, honesty, and sympathy, etc. For instance, Dutch courage may not be good some of the time, whereas one can be both generous and honest to a fault. Moreover, as mentioned, one can feel sympathy with someone who does not deserve it. Jonathan Dancy, the staunchest champion of moral particularism, illustrates the point with a vivid example where someone is unduly considerate to a torturer who is hell-bent on his job.¹⁸ The lesson to be learned from moral particularism seems to be this: whether the manifestation of a virtuous disposition is good is not a settled matter; rather, it is very much context-dependent.

If moral particularism is right about the variability of the moral value of manifestations of the virtues, then it seems to pose at least a *prima facie* threat to BME. How so? As we have mentioned, BME aims to improve people’s moral behaviour through improving, via biomedical means, people’s virtuous dispositions. Now, if people’s virtuous dispositions can actually lead to morally wrong behaviour, then it would seem that BME, by enhancing people’s virtuous dispositions via biomedical means, does not necessarily achieve what it aims at – the improvement of people’s moral behaviour. It may even be counterproductive sometimes, which some have taken to constitute a reason against BME.

In the next section we will argue, via a comparison with moral education, that the variability of the moral value of manifestations of the

¹⁷ We use “moral values” broadly to refer to not only goodness and badness but rightness and wrongness as well.

¹⁸ Jonathan Dancy, “Moral Particularism”, in Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*: <http://plato.stanford.edu/archives/fall2013/entries/moral-particularism/>.

virtues does not suffice to ground a reason to reject BME. Before we do so, some comments are in order.

First, it should be acknowledged that moral particularism when applied to the realm of moral values is a controversial doctrine. While it attracts some supporters, it also attracts many critics. Some critics have argued, for instance, that some natural properties, when specified in more detail, can have a constant value across different contexts.¹⁹ Torturing a six-year-old merely for fun can never be good, whereas the pleasures derived from harmless activities such as horticulture can never be bad.

Second, it is also controversial whether particularism is true of the moral values of the virtues. It has been contended by many that even if the value of natural properties can change, those of the virtues cannot.²⁰ This is because the values are in-built elements of the virtues. For instance, if someone calls an action “honest” but regards it as bad for that reason, it seems that he has not fully grasped the meaning of the concept “honesty”.

In reply to the first concern particularists have stressed the importance of distinguishing the ground of the value from the enablers of the value.²¹ Take the torture case. The particularists might well contend that the property of torture is the ground of the negative value, whereas the property of “doing it to a six-year old merely for fun” is enables the ground to function properly. What the particularists are at pains to emphasise is that the natural property that functions as the ground can come to acquire a different value in a context where the enabler is absent; for instance, the property of torturing

¹⁹ See for instance Brad Hooker, ‘Moral Particularism: Wrong and Bad’, in Brad Hooker and Margaret Little (eds), *Moral Particularism*, (Oxford: Oxford University Press, 2000), 8.

²⁰ Hooker, ‘Moral Particularism: Wrong and Bad’; Brad Hooker, ‘Moral Particularism and the Real World’, in Vojko Strahovnik, Mark Lance, and Matjaž Potrc (eds), *Challenging Moral Particularism* (New York: Routledge, 2008), 12–30; Roger Crisp, ‘Particularizing Particularism’, in Brad Hooker and Margaret Little (eds), *Moral Particularism* (Oxford: Oxford University Press, 2000), 23–47; David McNaughton and Piers Rawling, ‘Unprincipled Ethics’, in Brad Hooker and Margaret Little (eds), *Moral Particularism* (Oxford: Oxford University Press, 2000), 256–275; Margaret Little, ‘Moral Generalities Revisited’, in Brad Hooker and Margaret Little (eds), *Moral Particularism* (Oxford: Oxford University Press, 2000), 276–304.

²¹ Ralf Bader, ‘Conditions, Modifiers, and Holism’, in Errol Lord and Barry McGuire (eds), *Weighing Reasons* (Oxford: Oxford University Press, 2016), 27–55.

might arguably have a positive rather than negative value in an S&M chamber.²²

In response to the second concern, many with particularist sympathies have argued that values are not in-built elements of the virtues; rather, they are our psychological projections.²³ With a change in context we might well project properties of opposite value onto the virtues. For instance, we might well contend without incoherence that someone is to be condemned for his kindness to a torturer.

For the purposes of this essay, we will not attempt a further discussion of whether these replies from particularism can allay the above-mentioned concerns. Our strategy is to fully grant the variability of the moral value of manifestations of the virtues, and argue that even if the virtues' values are variable this cannot repudiate BME.

3. BME and Moral Education

Some have taken the objection from moral particularism to constitute a compelling reason against BME. In this section we will argue that it does not, via a comparison with moral education. The main reason for this comparison is that moral education, as a means of moral enhancement, shares with BME the same goal of improving people's moral behaviour through augmenting their virtuous dispositions.

Now, as we have mentioned, some bioethicists with particularist sympathies have argued that BME cannot achieve this goal because manifestations of virtuous dispositions are not always appropriate.²⁴ If this is correct, then presumably it will be a challenge to moral

²² We say "arguably" because one might feel that what happens in the S&M chamber is consensual and therefore cannot really be torture. On the other hand, it might well be contended that if what is going on in the S&M chamber is not real torture then the masochists in the S&M chamber would not get a kick out of it. The fact that the masochists do get a kick, one might therefore suggest, indicates that what they experience is indeed torture. See Mark Timmons, *Moral Theory* (Maryland: Rowman & Littlefield, 2002), 259.

²³ Simon Blackburn, 'Through Thick and Thin', in *Practical Tortoise Raising and Other Philosophical Essays* (Oxford: Oxford University Press, 2010), ch.7, and 'Disentangling Disentangling', in Simon Kirchin (ed.), *Thick Concepts* (Oxford: Oxford University Press, 2013), 121–135.

²⁴ See for instance Sparrow, 'Better Living Through Chemistry? A Reply to Savulescu and Persson on "Moral Enhancement"', and 'Egalitarianism and Moral Bioenhancement'.

education too, for since time immemorial moral education has played the role of cultivating virtuous dispositions.

However, we will argue that variability of the moral status of manifestations of the virtues does not constitute a good reason against the practice of moral education. That is, we contend that the particularist objection “proves too much”. We will explain why this is so and further contend that for the same reason the particularist objection does not count against moral education, it does not count against BME either.

To begin with, we take it to be a fact that moral education is distinguished from brainwashing or indoctrination by its aim to improve our moral behaviour through cultivating good character or virtuous dispositions. Now, while it might be true that the manifestations of virtuous dispositions in some contexts are morally wrong rather than right, as the particularists claim, this does not seem to provide a good reason against the practice of moral education. Why? We think this is for the mundane reason that moral education’s dedication to the cultivation of virtuous dispositions still gives us the best chance of performing morally right actions, and the alternative of giving up on teaching our children virtues such as sympathy, courage, generosity, or honesty just seems patently unpalatable. Swanton has observed, quite correctly in our view, that if the virtues did not characteristically lead to morally right actions in most circumstances, we would not have categorised them as virtues in the first place.²⁵ So there seems to be a stable connection between our virtuous dispositions and the performance of morally right actions.²⁶

²⁵ Christine Swanton, *Virtue Ethics: A Pluralistic View* (Oxford: Oxford University Press, 2003), 244.

²⁶ It should be noted that situationist philosophers, such as John Doris and Gilbert Harman, often take the claim here to be falsified by empirical evidence (such as the Good Samaritan experiment) in social psychology. See John Doris, *Lack of Character: Personality and Moral Behavior* (Cambridge: Cambridge University Press, 2002); Gilbert Harman, ‘Moral Philosophy Meets Social Psychology: Virtue Ethics and the Fundamental Attribution Error’, *Proceedings of the Aristotelian Society* 99:1 (1999), 315–332. Situationism is roughly the view that our moral behaviour is very much of a function of the circumstances we are in; the virtues do not have much of a role to play. However, we are of the view that the empirical evidence adduced by the situationists might merely show that most people are not as virtuous as they should be, not that the virtues are usually causally inefficacious with regard to morally right actions. Before this alternative interpretation of the empirical evidence is ruled out, we do not think that situationism has much force against our claim.

If so, giving up on moral education, or BME, for that matter, merely because the moral statuses of manifestations of the virtues are variable seems unwarranted. For this would only reduce the chances of our performing the morally right actions. As Margaret Little has rightly observed, so long as we are not in a post-apocalyptic world where things are turned completely upside down we can reasonably expect that the virtues would characteristically produce morally right actions.²⁷ The normality of the background conditions ensures that the virtues are so conducive; honesty is usually the best policy, whereas kindness to people is generally good.

If it turns out that in some contexts, the virtues actually lead to morally wrong actions, this does not suffice, *per se*, as a reason to abandon the practice of moral education. We need to ask how much more likely the virtuous dispositions themselves are to lead to wrongs rather than rights. If it is not very likely (which is our view on the basis of Swanton's perceptive observations), then it is just irrational, on a cost-benefit analysis, to give up on their cultivation.

So there seems to be no reason to reject moral education simply because the virtues cannot *guarantee* moral behaviour.²⁸ Similarly, this cannot constitute a reason to reject BME either. In our view, so long as the virtuous dispositions brought about by biomedical means can produce morally right actions no less reliably than those brought about by moral education, they are worth having.

4. Practical Wisdom and BME

In the last section we argued that if the variability of the moral statuses of manifestations of the virtues does not suffice as a reason against moral education, then nor does it suffice as a reason against BME. So long as virtuous dispositions can reliably produce morally right actions in most circumstances they are worth cultivating and enhancing. In this section, we will argue, however, that unlike moral education, the dispositions and character traits enhanced through biomedical means are merely what we call "context-insensitive traits" such that they may not reliably produce morally right actions. Whether they deserve to be called "virtues" is thus questionable. If there is any lesson to be learned from moral

²⁷ Little, 'Moral Generalities Revisited', 296–298.

²⁸ And after all, moral philosophers since the time of Aristotle have long been aware of moral (bad) luck.

particularism we think it is this: practical wisdom, something that can be enhanced through moral education, can never be enhanced through biomedical means. There remains, therefore, an indispensable role for moral education to play insofar as the cultivation of practical wisdom and moral virtues is concerned. Let us elaborate.

To begin with, the idea of practical wisdom can be traced back to Aristotle, whom we regard as the founding father of moral particularism. Three features of practical wisdom are especially relevant for our purposes here. First, its context-sensitive nature. Very roughly, practical wisdom is widely regarded as entailing some sort of moral sensitivity to the morally salient features of particular circumstances.²⁹ It is concerned with getting things right, and this is done through carefully considering the particulars of the circumstances, rather than applying any universal principles. For universal principles deal in samenesses, which are often too crude to capture the nuances and complexities of moral life.³⁰ One size cannot fit all. To use an analogy from Aristotle to illustrate, the amount of food that is insufficient for Milo, a wrestler, might be too much for a normal adult.³¹ There is no principle that tells us what the correct amount of food is in advance. Sensitivities to the particulars of the circumstances are essential for correct judgement. In the moral domain things are not so very different. A gift that is rightly considered generous to our neighbour's three-year-old child might be rightly considered stingy if we give it to our Oxford academic host. Practical wisdom, according to Aristotle, plays the role of discerning the "mean" in actions, which is contingent on particular circumstances.

Second, another significant feature of practical wisdom, according to Aristotle, is that it is essentially involved in the virtues.³² To put this slightly differently, virtues are those character traits that are regulated by practical wisdom. Dutch courage, according to this view, is not real courage, for real courage is regulated by practical wisdom, which is concerned to hit the mean without going to extremes.

²⁹ Christine Swanston and John McDowell also interpret practical wisdom along these lines. See Christine Swanton, 'A Virtue Ethical Account of Right Action', *Ethics* 112:1 (2001), 32–52; John McDowell, 'Virtue and Reason', in *Mind, Value & Reality* (Massachusetts: Harvard University Press, 2002), 50–73. For Aristotle's relevant characterisation of practical wisdom, see *Nicomachean Ethics*, VI.8.

³⁰ Jonathan Dancy, *Ethics Without Principles* (Oxford: Oxford University Press, 2004), 2.

³¹ Aristotle, *Nicomachean Ethics*, VI.6.

³² Aristotle, *Nicomachean Ethics*, VI.13.

Since Dutch courage might well entail excessive drinking, it is not real courage. Real courage is instead exhibited when one resists peer pressure to drink more than one can handle. Take another example. A disposition to tell the truth, according to the view propounded here, is not to be equated with the virtue of being honest if the disposition is not regulated by practical wisdom. Practical wisdom informs the agent to whom the truth is owed; without it, one might well wrongly tell the truth to Nazi guards when enquired as to the whereabouts of a Jewish girl they wish to capture and send to Auschwitz. And such behaviour does not seem to be what honesty, *qua* virtue, requires. For honesty, when regulated by practical wisdom, is not simply the vulgar disposition to tell the truth, but rather, from an Aristotelian particularist perspective, a more sophisticated disposition to tell the truth to the right person in the right way and for the right reason.³³

Third, practical wisdom essentially involves life experience. In contrasting morality with mathematics, Aristotle maintains that while there can be whizz-kids in maths, there cannot be whizz-kids in morality, the reason being that maths is essentially concerned with discovering *a priori* universal truths, whereas morality is very much down-to-earth, concerned with the particulars of circumstances.³⁴ To be able to reliably discern moral truths (or to be practically wise, for that matter), therefore, according to Aristotle, will require one to have abundant experience with various circumstances of life. To use a modern example, while Terence Tao, a mathematical genius, could solve difficult maths puzzles at the age of nine, it seems far-fetched and unrealistic to expect him to tell us at that age what we ought to do when facing life-and-death decisions concerning euthanasia or abortion.

Now, having clarified the nature of practical wisdom as (1) being context-sensitive, (2) essentially involved in the virtues, and (3) essentially involving life experience, we can now proceed to explain why BME does not really improve people's virtuous dispositions. This is essentially because BME is ineffectual in enhancing practical wisdom, due to the first and third features of practical wisdom. And since practical wisdom is essentially involved in all of the virtues, as indicated by (2), it follows that BME is not capable of enhancing the virtues.

Let us elaborate. First of all, why would BME not improve people's practical wisdom? As we have mentioned, practical

³³ Aristotle, *Nicomachean Ethics*, II.3.

³⁴ Aristotle, *Nicomachean Ethics*, VI.8.

wisdom essentially involves life experience and thus takes time to cultivate. BME, by contrast, purports to be capable of enhancing people's "virtuous dispositions" once the drugs or biomedical means used have come into effect, without necessarily involving life's seasoned experience and years of cultivation. This being the case, we have little reason to believe that the "virtuous dispositions" enhanced via biomedical means involve practical wisdom. To put things slightly differently, in enhancing people's "virtuous dispositions", BME does not thus improve their practical wisdom.

Second, and more importantly, practical wisdom, as we have elaborated, is context-sensitive in nature; it is concerned with doing the right thing contingent on the morally salient features of the circumstances. However, the "virtues" purportedly enhanced through biomedical means are not really context-sensitive in nature. For instance, in principle a moral agent who has been enhanced in "generosity" through biomedical means can be more "generous", we might say, not just in his way of treating his friends, but in his donations to terrorist organisations. The latter is, however, not what a practically wise person would do and would in fact frown upon.³⁵ So this shows that the "virtue" of generosity purportedly enhanced by BME does not essentially involve practical wisdom. It is *not* context-sensitive in nature. Or rather, it is context-*insensitive*, in that it merely promotes certain types of general behaviour. Take two more examples to illustrate. It is perfectly imaginable that someone with "courage" enhanced through biomedical means might well utilise it to rob a bank, whereas "loyalty" enhanced through biomedical means might well lead to unflinching support for unethical policies such as racial cleansing advocated by a party to which a person is loyal.

So, on the basis of the two observations mentioned above, we have little reason to believe that BME enhances people's practical wisdom. But as we have argued, real virtues, for Aristotle, essentially involve it. This being the case, the "virtues" BME enhances are to be regarded as merely "quasi-virtues" at best, or dispositions that have some semblance of virtues. The real lesson to be learned from

³⁵ A passage from Elizabeth Telfer's work can illuminate why this is so: 'it seems to be true that we do not call someone "wise" in English unless he is in general a good person, and it may be that the Greek noun "phronesis" carries a similar implication'. See Telfer, 'The Unity of the Moral Virtues in Aristotle's "Nicomachean Ethics"', *Proceedings of the Aristotelian Society* 90:1 (1990), 35–48.

particularism, we maintain, is that BME, being impotent in enhancing people's practical wisdom, cannot really enhance real virtues.

To forestall a possible misunderstanding, we are *not* claiming that BME cannot enhance people's real virtues in any circumstances. In fact, we leave open the possibility that it may well do so with the aid of practical wisdom. We are merely arguing that contrary to what most BME supporters seem to think, BME *by itself* is impotent in enhancing the virtues.³⁶

Now, since the virtues are important for living a moral life, and BME by itself, as we argued above, cannot really contribute to their improvement without the aid of practical wisdom, it is obviously important to elaborate on how to cultivate practical wisdom insofar as we are concerned with enhancing our virtues. With regard to the cultivation of practical wisdom, we think that moral education plays an indispensable role. As for methodology, we side with Martha Nussbaum in thinking that critical reflections on ethically charged novels provide good training in moral sensitivities.³⁷ For it is the art of a great novelist to vividly represent the nuanced details (i.e., the particulars) of moral situations. Students can be invited to think, for instance, why a gentle lift of eyebrows can reverse our moral judgement about the character of the protagonist, or why a certain wave of the hands indicates aloofness rather than passion. In addition to reflections on great novels, we might also add that a good training in moral philosophy can help too.³⁸ To carefully think through the pros and cons of a live debate, one has to pay

³⁶ For relevant views of the BME supporters, see, for instance, David DeGrazia, 'Moral Enhancement, Freedom, and What We (Should) Value in Moral Behaviour', *Journal of Medical Ethics* 40:6 (2014), 361–368; Douglas, 'Moral Enhancement'; Persson and Savulescu, 'The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity'; *Unfit for the Future: The Need for Moral Enhancement*; and 'The Duty to be Morally Enhanced'; Will Jefferson, et al., 'Enhancement and Civic Virtue', *Social Theory and Practice* 40:3 (2014), 499–527.

³⁷ See Martha Nussbaum, 'Finely Aware and Richly Responsible', *Love's Knowledge* (New York: Oxford University Press, 1990), 148–167.

³⁸ Although it should be admitted that contemporary moral philosophy often involves a heavy use of thought experiments which are abstracted from the concrete details of the case. We are not against their use, for they can indeed help illuminate difficult cases from time to time. But we should also be careful in their use in that there can be morally relevant differences between them and the real cases we encounter. This is a point the particularists have been wont to emphasise. See Jonathan Dancy, 'The Role of

close attention to the morally salient features of the matter. For instance, in the debate regarding the moral permissibility of active euthanasia, one is sensitised to a great number of factors such as whether the recipient is in a sane mental condition, whether he has come of age, whether he is fully informed of alternatives, and whether he is terminally ill, etc.

5. Setting Boundaries to BME

Since BME, being context-insensitive and not involving seasoned life experience, is impotent in improving practical wisdom, the character traits it enhances are not really “virtues” in any robust sense of the term. A terrorist financier, after the use of BME, can be more “generous” in his donations to the terrorists. A robber might use BME to improve his “courage” before proceeding to rob the bank. Finally, an undercover detective sent to infiltrate a criminal cell, after receiving BME might well become more “honest” (possessing a stronger disposition to tell the truth) and thus undermine his task and endanger his life.

So it is actually very important to set boundaries to the use of BME. Far from making it compulsory, as some supporters of BME seem to suggest,³⁹ certain people should actually be prevented from its use, especially the following two categories of people: (1) those who do not aim to do the morally right thing, for they might well misuse the “virtues” enhanced via biomedical means, and (2) those who *are* concerned with doing the morally right thing, but have to constantly do the “unvirtuous” thing (e.g., telling a lie) because of the professional roles they play. The undercover detective belongs to the second category, whereas the robber and the terrorist financier the first.

In practice, it is difficult, if not impossible, to identify people in the first category, for the mundane reason that (potential) robbers and terrorist financiers are unlikely to reveal their furtive identities. If so, this is a real concern for mandatory implementation of BME.

Imaginary Cases in Ethics’, *Pacific Philosophical Quarterly* 66:1/2 (1985), 141–153.

³⁹ See for instance, Persson and Savulescu, ‘The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity’; *Unfit for the Future: The Need for Moral Enhancement*; and ‘The Duty to be Morally Enhanced’.

BME might well result in unethical behaviour, if used by the people in the first category. And for those in the second category, it is clear that they should be exempted or even actively prevented from certain types of BME. For instance, the undercover detectives should perhaps be actively prevented from using BME to improve their truth-telling dispositions.

For the ordinary folks like most of us who belong to neither of the above-mentioned categories, BME is also to be used with caution. For most of us may fall well short of possessing practical wisdom. We might not be sensitive enough, for instance, to when the truth is to be told, and how best to tell it, or to whom the truth is owed. When our truth-telling disposition is enhanced, due to the lack of practical wisdom, we might well misuse it too. The future of the widespread implementation of BME might not be as rosy as its supporters like to think.

6. Objections and Replies

Let us clarify and defend our position by addressing several possible objections.

Objection 1: In section 4 you argue that BME cannot really contribute to people's virtues without the aid of practical wisdom. That seems to suggest that with the aid of practical wisdom, BME might well contribute to people's virtues.

Reply 1: Our view of BME is not entirely negative. We leave open the possibility that with the progress of science and technology, BME might well contribute to the enhancement of virtues when used on people who have practical wisdom (i.e., people who know how to do the right thing, at the right time, in the right place, for the right reason, etc.).⁴⁰ That is, we leave open, though do not insist on, the possibility that people who have practical wisdom, *qua* intellectual virtue, might lack enough motivation to do the right thing. In this scenario people who already have practical wisdom might still need BME to improve their virtuous dispositions or motivations.

⁴⁰ Something along these lines was suggested by Harris Wiseman, *The Myth of the Moral Brain: The Limit of Moral Enhancement* (Cambridge, MA: MIT Press, 2016), 170. He maintains that working alongside traditional moral education, BME might well serve as a supplementary support mechanism for those who are already morally oriented.

The reason why we merely leave open but do not want to insist on the possibility is because it might well turn out that people who have practical wisdom must already have the virtuous dispositions, as most interpreters of Aristotle have maintained.⁴¹ Then it is not clear whether there is still room with regard to these people's virtuous dispositions for BME to improve.

For our purposes, we only want to insist on the claim that *without* the aid of practical wisdom, BME alone cannot contribute to people's real virtues, for the reasons already articulated in section 4. *With* the aid of practical wisdom, whether BME can contribute to the improvement of people's virtues depends on whether one thinks practical wisdom already essentially entails virtuous dispositions.

Objection 2: In section 4 you said that BME is impotent in contributing to practical wisdom. Recently, it has been suggested, however, that moral education is actually a specific form of BME, on the grounds that moral education, like the use of drugs, also changes one's biological makeup such as the shape of the synapses and the brain activities.⁴² If so, would your argument not lead to an implausible conclusion by your own lights – that is, that moral education is impotent in enhancing practical wisdom?

Reply 2: First of all, it is controversial whether moral education should be regarded as a form of BME. For although moral education, like BME, modulates people's moral behaviour through their brain chemistry, moral education focusses, *inter alia*, on the exploration of the meaning of life, the reason why an action is right or wrong, or what it means to respect people from different cultures, all of which are open questions and therefore do not align with BME, which is mainly in the business of enhancing people's "virtues". In addition, as we understand the term "BME", it refers to moral enhancement using drugs or genetic engineering. So it seems somewhat misleading to see moral education, which uses neither of these means, as a form of BME. But even if we broaden the meaning of BME so as to include moral education for the sake of argument, we insist that

⁴¹ Indeed, there is good textual evidence in support of this interpretation in *Nicomachean Ethics*, VI.12, where Aristotle claims that '[m]anifestly, then, one cannot be practically wise without being good'.

⁴² Harris Wiseman, *The Myth of the Moral Brain: The Limit of Moral Enhancement*, 285–286. For a more detailed discussion, see Pei-Hua Huang, 'Authenticity, Autonomy and Enhancement', *Dilemata* 19 (2015), 39–52.

moral education is distinctive, in that it distinguishes itself from other forms of BME by being the sort of BME that can contribute to practical wisdom, due to the emphasis it can place on the nuanced details of the moral circumstances one faces.

By conceding that BME, conducted in the form of moral education, may contribute to practical wisdom, we do not believe that we thereby concede the argument *in toto*. For this is scarcely what the BME supporters themselves will be content with. What counts as true victory for the BME supporters is the substantiation of their claim that practical wisdom can indeed be enhanced via drug use or genetic engineering. Yet, insofar as we know, there is no relevant empirical evidence in support of this claim. Moreover, as we have argued in section 4, it is not entirely clear how practical wisdom, being essentially sensitive to the particulars of situations, can be enhanced through drug use or genetic engineering that can only augment dispositions to perform certain types of (context-insensitive) general behaviour. Here we are in agreement with Christen and Narvaez, who perceptively observe that since practical wisdom is about ‘acting skilfully in the right way at the right time with the right feelings’, it cannot be ‘given in measured dosages with predictable outcomes’.⁴³ BME’s purported capacity to increase practical wisdom is best taken with a pinch of salt.

Objection 3: You claim in sections 2 and 4 that Aristotle is a particularist, but Terence Irwin, a prominent Aristotelian scholar, argues that he is not.⁴⁴

Reply 3: There are just as many interpretations of Aristotle as there are interpretations of particularism. Depending on one’s interpretation of particularism and one’s interpretation of Aristotle, Aristotle may not be a particular brand of particularist, as Irwin rightly suggests. Our interest in this essay, however, is not exegetical. For even if Aristotle is *not* a particularist, the particularist worry we brought up (i.e., that practical wisdom cannot be enhanced via biomedical means) is still valid.

⁴³ Markus Christen and Darcia Narvaez, ‘Moral Development in Early Childhood Is Key for Moral Enhancement’, *AJOB Neuroscience* 2:4 (2012), 25.

⁴⁴ Terence Irwin, ‘Ethics as an Inexact Science: Aristotle’s Ambition for Moral Theory’, in Brad Hooker and Margaret Little (eds), *Moral Particularism* (Oxford: Oxford University Press, 2000), 100–129.

Objection 4: You claim that biomedical means are impotent in enhancing practical wisdom, but some studies have shown that some drugs can improve people's intelligence or cognitive capacities.⁴⁵ If so, would those drugs not also help with the enhancement of practical wisdom, *qua* intellectual capacity?

Reply 4: While it is certainly true that practical wisdom involves intelligence or cleverness, it is not to be equated with them, as Aristotle has famously claimed. An evil person might well be clever or intelligent, but he is never practically wise, according to Aristotle.⁴⁶ For it is an essential characteristic of a practically wise person that he aims to do the morally right thing. So while some drugs might improve the intelligence of a person, they still may fall short of improving his practical wisdom. To put it differently, intelligence is merely one of the necessary components of practical wisdom; it is not sufficient. One may be intelligent without being practically wise at all. Far too many intelligent people are not morally sensitive. So it is too quick to infer from the claim that some drugs are effective in enhancing one's intelligence to the conclusion that one's practical wisdom is therefore improved.

Objection 5: In section 6, you argue that people who aim to do the morally right thing but have to constantly do the unvirtuous thing due to their professional roles should be exempted or even banned from certain forms of BME. But what if they are already in full possession of practical wisdom? Take the undercover detective, for instance. If they have already acquired full possession of practical wisdom, that just means that they know, for instance, when to tell the truth, to whom the truth is owed, and for what the truth is needed, etc. They can judge that, for instance, the mafia does not deserve to know the truth about their real identity. In this scenario, using BME to improve their truth-telling disposition does not seem to be harmful.

Reply 5: In the scenario depicted by our objector, using BME may indeed not be harmful. But this is entirely compatible with our central point that BME ought to be used with caution. For if the undercover detective is still lacking in the context-sensitive aspects

⁴⁵ Nirit Agay, et al., 'Non-Specific Effects of Methylphenidate (Ritalin) on Cognitive Ability and Decision-Making of ADHD and Healthy Adults', *Psychopharmacology* 210:4 (2010), 511–519.

⁴⁶ Aristotle, *Nicomachean Ethics*, VI.12.

of practical wisdom, it will certainly be dangerous to use BME to improve their truth-telling disposition.

7. Conclusion

It goes without saying that our world faces serious challenges such as global warming, terrorism, pollution, and poverty. One major source of these evils, as the supporters of BME rightly diagnose, is our moral impoverishment. We human beings do not live up to the demands of morality. In the face of such crises, BME supporters recommend further research on it as a potential solution. Although we welcome such attempts, we also think that we should neither overestimate nor romanticise BME. For, as we have argued on the basis of the insights of Aristotelian moral particularism, BME, by itself, is impotent in promoting practical wisdom and hence the virtues. Traditional moral education would still play a major and indispensable role in their cultivation and improvement.⁴⁷

Monash University
pei-hua.huang@monash.edu

Chung Cheng University
u4079238@gmail.com

⁴⁷ This chapter is a work of collaboration; both authors contributed equally to the writing of and research for it. We are immensely grateful to the following people for their helpful feedback: Robert Sparrow, Robert Mark Simpson, Andrew McLoughlin, and Hiroshi Miura. Tsu would also like to thank Taiwan's Ministry of Science and Technology for financial support (MOST-104-2628-H-194-001-MY2; MOST-105-2410-H-194-096-MY4).