道德生物增強與美德倫理學：一對不相容的組合？

Moral Bioenhancement and Virtue Ethics: An Incompatible Pair?

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摘要

埃伯爾和阿吉博拉提出了一種溫和版本的適用於道德生物增強的美德倫理學路徑。他們認為生物增強技術可以用來幫助克服某些意志薄弱問題，但基於美德倫理的要求和實踐考量，我們更應通過強化傳統道德增強方法，如更優質的教育和社會設計，為道德增強提供更穩定、持久且真實的方法。本評論對他們關於

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直接增強與間接增強的區分，過程與結果的二分，自然與人工的二分，以及理想化的傳統方法提出質疑。這些問題可能削弱他們的論證效力，即試圖證明美德倫理學能為反對道德生物增強提供決定性依據。最終，借助有關道德生物增強學者的觀點，本文試圖證明美德倫理學與主體性生物增強技術之間看似不相容的關係值得重新審視，甚至可能被顛覆。

In their paper, “Can we biotechnologically construct a morally better human?”, Eberl and Ajibola develop a moderate approach of virtue ethics to moral bioenhancement. They argue that authentic moral virtue requires the developmental process of habituation, rational deliberation, and struggle with moral conflicts that cannot be replicated by direct, outcome-specific biotechnological interventions. Building on Aristotelian virtue ethics, they suggest that moral bioenhancement risks creating a new category—the *technos*—that exhibits virtuous behavior without possessing genuine virtue. In contrast, true moral progress, they maintain, is gradual, self-directed, and socially embedded. Accordingly, they advocate for an alternative pathway grounded in traditional methods including better education and intentional social designs. These methods, they argue, are more likely to offer stable, permanent, and authentic moral enhancement than biotechnological interventions alone.

Nevertheless, rather than categorically rejecting moral bioenhancement, they maintain that bioenhancement might legitimately help overcome *akrasia* (weakness of will) when used voluntarily (agents already possess appropriate second-order desires) and without compromising agency. However, they also raise several practical concerns about pharmaceutical or neurological interventions, such as dependency, market corruption, and loss of moral agency. Therefore, they conclude that while biotechnology may serve as a supplementary aid, it cannot, on its own, construct a morally better human.

While Eberl and Ajibola’s paper offers crucial insights by approaching moral enhancement with virtue ethics, I will, in this comment, raise several concerns about their framing of direct and indirect enhancement, the process vs. outcome dichotomy, the natural vs. artificial dichotomy, and the idealized traditional methods. These problems would weaken their arguments in establishing virtue ethics as providing decisive objections to moral bioenhancement.

First, Eberl and Ajibola’s paper draws a careful and principled distinction between *direct* and *indirect* moral enhancement, broadly

aligning the latter with traditional virtue cultivation and the former with biotechnological interventions. While this division clarifies key conceptual differences in approach, it may obscure more than it illuminates. Certain neurobiological interventions they themselves approve of, such as cognitive bias reduction or enhancement of impulse control, plausibly count as *indirect*: they strengthen the agent's ability to reason and act in accordance with moral judgment without prescribing substantive moral content. Likewise, interventions affecting serotonergic or oxytocinergic systems do not impose specific moral conclusions but modulate affective dispositions (e.g., sensitivity to others' suffering), in ways analogous to emotional cultivation in traditional moral education.

Conversely, many paradigmatically traditional forms of moral enhancement, such as parental habituation, religious instruction, and empathy training, explicitly transmit particular moral norms and desired emotional responses. These practices, if judged by the authors' criteria, would seem more direct in content imposition than many biomedical methods they criticize. Thus, the direct vs. indirect distinction risks collapsing into a biomedical vs. traditional binary rather than marking a principled difference concerning the determination of moral content or the preservation of moral agency. A more defensible taxonomy would assess interventions according to whether they (a) bypass reflective endorsement, (b) eliminate the possibility of moral dissent, or (c) undermine the agent's ability to revise moral commitments. Such criteria could apply to both biomedical and non-biomedical methods alike.

Second, the authors' appeal to a morally significant distinction between process and outcome is asserted rather than systematically defended, and rests on a contentious normative assumption. This position presupposes that moral worth is tied not merely to the possession of virtuous dispositions or the production of morally desirable actions, but to the manner in which such dispositions are acquired. Yet this claim is unlikely to persuade consequentialist theorists, for whom the moral value of an action or character state ultimately derives from its outcomes rather than its etiology. Moreover, even within an Aristotelian virtue ethics framework, the primacy of *eudaimonia* (flourishing) as the telos of moral development suggests that habituation and moral training are instrumentally valuable because they reliably produce stable virtues, not intrinsically valuable irrespective of outcome. Consequently, if biotechnological interventions were able to generate genuine, stable, and reflectively endorsed virtuous dispositions conducive to flourishing, it is unclear why the absence of traditional habituative processes should be considered morally deficient *per se*. Therefore, the process vs. outcome

dichotomy functions more as a rhetorical preference for traditional moral cultivation than as a philosophically grounded objection.

Another problematic dichotomy in their argument is the implicit division between natural and artificial intervention. Biomedical or pharmaceutical methods are portrayed as morally suspect because they are deemed to bypass authentic moral development, whereas other external influences, such as education, socioeconomic resources, and institutional structures, are treated as unproblematic, despite being equally external to the individual's innate capacities. Yet no principled criterion is offered to distinguish permissible forms of external moral support from impermissible ones. The implicit line of demarcation appears instead to correlate with the form or technological sophistication of the intervention rather than with any morally relevant feature, such as its impact on autonomy, reflective endorsement, or moral understanding. This suggests that the objection is not grounded in a coherent ethical principle, but in an unexamined preference for socially familiar (and thus "naturalized") methods of moral formation over technologically mediated ones.

Fourth, the authors' proposal to prioritize enhanced traditional methods of moral development over biomedical approaches remains underdeveloped and lacks substantive theoretical or empirical grounding. Their recommendations, such as increased use of reflective exercises, daily practices, or improved social design, are articulated at the level of generality. Moreover, the invocation of large-scale social design as a moral developmental tool is philosophically and politically fraught, as the authors themselves acknowledge through references to Ellul, such efforts risk exerting pervasive, coercive pressure on individual autonomy, arguably more so than voluntary biomedical interventions. Additionally, these proposals fail to address the practical question of scalability. If traditional moral education has historically failed to prevent moral catastrophes or mitigate existential risks, it is unclear how slightly refined versions, absent a concrete institutional, technological, or global framework, could achieve the transformative moral shift the authors deem necessary. Without a detailed roadmap, the appeal to enhanced traditional methods remains normatively attractive but operationally vacuous.

Nevertheless, the authors' acknowledgement that bioenhancement might permissibly assist in overcoming *akrasia* suggests they have implicitly adopted a more permissive stance than their broader argument allows. Proponents of moral bioenhancement, such as Earp, Douglas, and Savulescu, offer a more analytically rigorous framework that distinguishes between *functional-augmentative enhancement* (which merely intensifies a first-order moral capacity, such as empathy or harm aversion) and *agential enhancement* (which strengthens

second-order capacities for reflectively regulating and appropriately deploying such traits). Crucially, this latter form of bioenhancement aims not at behavioral conformity but at improved moral agency, making it more consistent with Aristotelian virtue ethics, where moral excellence requires both habituated dispositions and the practical wisdom to apply them contextually. This conceptual differentiation challenges Eberl and Ajibola's central objection by demonstrating how certain forms of bioenhancement could in fact function as aids to moral deliberation and self-governance rather than as substitutes for them. In this light, the apparent incompatibility between virtue ethics and well-designed agential bioenhancement may in fact be reconsidered, or even reversed.

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