



More love troubles: Emma Gordon on biomedical enhancements and love relationships

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Abstract

In my contribution to this book symposium on Emma Gordon's book *Human Enhancement and Well-Being*, I discuss and respond to Gordon's extensive discussion and criticisms of a skeptical argument regarding the desirability of love enhancements that I presented in a 2015 paper. I start by first explaining the overall project of Gordon's book, make a general comment about her overall approach (which I am broadly sympathetic with), and then proceed to a detailed discussion of Gordon's critical engagement with my 2015 argument. I defend my argument against Gordon's interesting criticisms and argue that Gordon has not defused my skeptical challenge to the desirability of love enhancements, but I also end by identifying key points of agreement between me and Gordon. Specific topics discussed include the distinction between ways of loving and causes of loving, the value of ways of loving and the value of the causes of loving, and whether or not the ideal of robust love attachments can be seen as compatible attachments causally dependent on love enhancements.

Keywords Biomedical enhancements · Love relationships · Love drugs

1 Introduction

In her excellent book *Human Enhancement and Well-Being: A Case for Optimism*, Emma Gordon (2023) first starts with a several-chapters-long general defense of human enhancement and then ends with a focused discussion of a particular case study, to which she applies her overall approach. The case study is human enhancement in the context of love relationships, sometimes dubbed "love drugs" in the academic literature about the topic. One of the things Gordon does is to extensively discuss a skeptical argument regarding love enhancements that I presented almost a decade ago in a paper called "Love Troubles" (Nyholm,

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2015a; see also Nyholm, 2015b). In my contribution to this book symposium, I will reply to Gordon's critical response to my 2015a argument. I will defend my skeptical argument and argue that Gordon has not successfully defused it. But before I get to that, I will first say something about Gordon's overall project. I will do so both to clarify where Gordon is coming from when she turns to the specific case of love drugs and as a way of situating Gordon's discussion in the larger context of earlier academic debates about human enhancement.

While I will defend my skeptical argument about the desirability of love enhancements against Gordon's criticisms in this paper, I should first mention that I am generally sympathetic to Gordon's overall approach. Let me also say before I start engaging critically with the book that this is truly an excellent book in several respects. The arguments and ideas in the book are interesting throughout and often both very convincing and plausible. The book is also very clear and very well-written.

The discussion below is divided into the following sections. First, I say something very brief about the topic of human enhancement and the overall project of Gordon's book (Sect. 2). Next, I say something about the literature on love drugs, including my own previous contributions to this debate (Sect. 3). After that, I look at Gordon's critical response to my skeptical argument (Sect. 4). I then defend my argument against Gordon's criticism (Sect. 5), and lastly wrap up the discussion with some concluding remarks about the limits of the disagreement between Gordon and me (Sect. 6).

2 The ethics of human enhancement, bioconservatism, and Gordon's conciliatory project

The general idea of human enhancement is to use technologies, including biomedical technologies, to improve human functioning within various domains of life. Introducing this general idea in her book, Gordon writes:

New technologies and medicines make it increasingly possible to *enhance* human functioning in new ways: to become smarter, more emotionally attuned, and perhaps even morally better. (Gordon, 2023: 1).

Philosophical debates about human enhancement used to be about extreme positions and were often very polarized in nature. Transhumanists would defend the idea that it is desirable to try to invent various radical forms of human enhancement. So-called bioconservatives, on the other hand, would argue that the idea of human enhancement is problematic in various ways. Francis Fukuyama once even went so far as to call transhumanist human enhancement the most dangerous idea in the world (More & More 2013: Part IX). Transhumanists, such as Nick Bostrom, responded that opposition to human enhancement depends on an irrational form of "status quo bias": the mistaken or irrational idea that everything is good the way it is and that there is no room for improvement in human life (Bostrom & Ord, 2006).

In such discussions, a sharp distinction used to be made between human enhancement, on the one hand, and medical treatments or therapy, on the other hand. Bioconservatives opposed to human enhancement would typically have nothing against using technology to treat illnesses and to try to bring people back to a normal baseline. But they would be strongly against the idea of enhancement in the sense of trying to use technologies to improve human functioning beyond what is considered the norm.

In these debates, bioconservatives would usually present various arguments against human enhancement. Those in favor of human enhancement would then try to undermine or invalidate these objections in order to defend human enhancement. One of the key moves that Gordon makes in her book is to first try to identify the best versions of these bioconservative worries about human enhancement and to then take them onboard and to reevaluate how to understand the function of these arguments. Instead of viewing bioconservative arguments as reasons against human enhancement, Gordon proposes that we should regard the best versions of these arguments as constraints on how to develop human enhancements in a responsible and ethically sound way. In what can be regarded as a conciliatory move, Gordon regards these bioconservative ideas as desiderata and constraints on human enhancement.

In particular, Gordon (2023: 59) thinks that human enhancements:

- should not undermine the prospects for human achievement,
- should not undermine people's freedom,
- should be developed in ways that are sensitive to what new kinds of responsibilities might be created,
- should be developed in light of a suitable understanding of how these technologies might bring about unalterable changes,
- should be in alignment with values endorsed upon reflection, and
- should strive to offset ethically important inequalities.

Gordon calls these the *achievement, freedom, agency, human nature, authenticity, and inequality-theoretic* desiderata and constraints on human enhancement.

Additionally, Gordon argues that people who wish to enhance themselves should consult somebody who takes up the role of what Gordon calls an “enhancement counsellor” (Gordon, 2023: chapter 5). This would be a trained professional who would help to guide would-be enhancers so that their programs of enhancement would be sensitive to the desiderata for and constraints on ethically acceptable uses of technologies and medicines to enhance human functioning.

In what domains of life does Gordon think that one might want and be well-advised to engage the services of an enhancement counsellor? Here is where we get to the case of biomedical enhancements for the context of love relationships, which is Gordon's key case study in her last chapter on what she calls “enhancement in practice.” The next section will provide a very brief overview of the idea of human enhancements in that context. But before getting to that, let me first make a general comment about Gordon's overall approach.

The general comment is that Gordon's approach seems to soften the distinction between human enhancements, on one hand, and treatments or therapies, on the other hand. That is, if (a) the idea of human enhancement is tempered by desiderata and constraints inspired by bioconservative arguments against human enhancement and (b) enhancement counsellors should moderate people's use of enhancement technologies in line with these broadly bioconservatism-friendly desiderata and constraints, then we seem to be moving away from very radical forms of enhancements of the transhumanist variety and more towards treatments and therapies. Admittedly, Gordon herself does not want to rule out radical enhancements. She wants to keep the door open for radical enhancements, at least in theory, as can—for example—be gleaned from how she formulates the human nature-theoretic desideratum at one point in her discussion, when she writes that any “positive proposal for pursuing human enhancement should *ceteris paribus* ensure that individuals pursuing radical and unalterable enhancements have a suitable understanding beforehand of the ramifications of any such unalterable changes” (Gordon (2023: 59). Yet, if individuals interested in radical enhancements ought to live up to all the constraints and desiderata that Gordon adopts from bioconservative arguments against human enhancement, and they should also always consult an enhancement counsellor, then this will surely have—is surely intended to have—a moderating influence on anybody who might be toying with the idea of radically enhancing themselves. I hasten to add that I don't see this observation as necessarily being something that should be regarded as a form of criticism of Gordon's perspective. It is rather a general comment about what seems to me to be one of the apparent consequences of adopting the sort of conciliatory approach that Gordon takes in relation to bioconservatism. With Gordon's overall approach having been introduced and this comment having been made, let us now turn to love enhancements.

3 From Prairie Voles to Helen Fisher: the love enhancement debate

The philosophical debate about biomedical enhancements in the context of love relationships started back in 2008, when Julian Savulescu and Anders Sandberg published an article called “Neuroenhancement of Love and Marriage: The Chemicals Between Us” in the very first issue of the journal *Neuroethics*. Savulescu and Sandberg (2008) started their article with two sets of observations. The first concerned empirical research on the neurochemistry of love and pair bonding and the second the effects of stable relationships and marriages on human health and well-being.

Regarding the first topic, one often cited empirical finding in this debate concerns prairie voles and meadow voles. One interesting difference between these otherwise two very similar types of rodents is that the former rodents tend to engage in life-long pair bonding, whereas the latter rodents tend to not do so (Marshall, 2012). Even more interesting in this context is that researchers have found that if genetic materials (vasopressin receptors) from the former kind of vole are transferred to the brains of the latter, then the meadow voles start engaging in the sorts of pair-bonding behaviors associated with the prairie voles.

A different study tried another approach: either increasing or reducing the level of oxytocin in the prairie voles. With decreased oxytocin levels, monogamous behaviors declined. With increased levels, they intensified. The idea from Savulescu and Sandberg was that if this sort of thing can be done with prairie voles and meadow voles, perhaps it could be done with humans as well.

Savulescu and Sandberg—who were subsequently joined by Brian Earp in a long list of publications on the topic—also made use of research by the evolutionary psychology-influenced anthropologist Helen Fisher. Fisher (2004) is well-known for dividing up long-lasting love relationships into three stages: an initial lust stage, an attraction stage, and later an attachment stage. Each stage of love is associated with particular hormonal changes and reactions. The operation of the lust system is “largely associated with the hormones estrogen and testosterone in both men and women.” Attraction is “associated primarily with adrenaline, dopamine, and serotonin.” And the attachment system is “associated mainly with the neuropeptides oxytocin and vasopressin” (Nyholm, 2015b: 338). Here, too, the idea is that if we can figure out ways of modulating these biological or neurochemical aspects of love, then we could bring love relationships under greater control. In addition to the striking research about the voles and Fisher’s research about humans, Sandberg and Savulescu also marshal lots of other empirical findings about the neurochemicals of love and attachments to support their overall argument.

The second set of observations in the initial Savulescu and Sandberg article—and in many articles after that one—is that long-lasting love relationships and stable marriages tend to promote human well-being, health, and longevity. In short, people in such relationships tend to be happier, healthier, and live longer. Because of this, Sandberg and Savulescu argue that a research program to create love enhancements should be put into place. In other words, they argue that (1) it is possible to create “love drugs” that can modulate and control human love and attachment and (2) love and relationships promote well-being, health, and longevity, and so, therefore, we should try to create and then make use of love enhancements.¹

Notably, in their 2008 paper, Savulescu and Sandberg defend not only the idea of repairing previously well-functioning love relationships with the help of love enhancements, but also the idea of initiating love relationships with the help of such enhancements. As Savulescu and Sandberg themselves note, both ideas are controversial. But the latter—i.e., trying to initiate love relationships between people using love drugs—is the more controversial of the two ideas.

That’s the basic case for love enhancements in the original Savulescu and Sandberg paper. As mentioned above, they subsequently teamed up with Earp. A very long list of follow-up publications came out, alongside various critical responses to this whole idea. The culmination of this series of publications—though certainly

¹ I am focusing on the idea of drugs to facilitate love relationships in this paper, but it is worth mentioning that Earp, Savulescu, Sandberg, and their other collaborators also take an interest in what they call “anti-love drugs”: biomedical means of helping people who are in abusive relationships to fall out of love. I am setting that idea aside here, since it is not an idea that is prominent in Gordon’s discussion of love drugs and it is also not part of her engagement with my work on the issue, which is the focus of this paper.

not the last publication on the topic—is Earp & Savulescu’s, 2020 monograph *Love Drugs: The Chemical Future of Relationships*: a book-length defense of love enhancements, which offers a wide range of empirical considerations in support of the possibility of developing these kinds of enhancements and that, among other things, defends incorporating drugs such as MDMA and psychedelics into couples therapy.

As noted, there have been many critical responses. To mention just three examples, Gupta (2012) worries that this whole idea might be a threat to diversity in relationship styles, John Evans and others worry that love drugs would result in a problematic form of “medicalization” of love (Nyholm, 2015b: 338), and Spreeuwenberg & Schaubroeck (2020) think that love boosted by love enhancements would be inauthentic.

One interesting thing about the development of this debate is that in their 2020 book, Earp and Savulescu try to be sensitive to the many types of criticisms their project has faced, and they are a little bit like Gordon in her book in the sense that they are defending a seemingly more moderate position than the one in the original 2008 Savulescu and Sandberg paper. They are defending something closer to treatment or therapy than human enhancement of any more radical, transhumanist variety.

In any case, the skeptical argument of mine that Gordon engages extensively with in her book was a response to some of the earlier, sometimes less moderate work on love enhancements. (I wrote my two main papers on this topic sometime back in late 2014 and early 2015.) I will give a detailed account of Gordon’s reconstruction of my argument in my 2015a article in the next section, but will first end this section by quickly saying something general about what I was trying to do in my papers.

When I was writing about this back then, I proceeded in two steps (Nyholm, 2015a, b). My first step was to note that many of the arguments Savulescu and Sandberg used in their original 2008 paper and in some subsequent papers seemed to treat love and love relationships as primarily having instrumental value, as means to various other ends, such as hedonic well-being, good health, and longevity. They do note briefly in their 2008 paper that it is also possible to regard love and love relationships as intrinsically valuable, or as ends in themselves. But that idea is not at all the focus of their overall argument. In contrast, I observed in my papers that love and love relationships are often singled out as being among the most important intrinsic values or ends in human life (being portrayed as such, not only in philosophy, but also in literature, pop songs, movies, art, etc.). For this reason, I argued, we should investigate whether love drugs could really be a means of bringing about love of the sort that is regarded as having intrinsic value and is treated as an end in itself. My second step was to highlight some general features of what people tend to desire and value when they desire and value love as an end. And I argued that attachments brought about and sustained with the help of love enhancements might not have some of the general features associated with the kind of love that people desire and value as an end in itself.

It is this line of reasoning that Gordon is interested in. While she is gracious enough to say that she thinks that my 2015a paper “offers among the most persuasive and nuanced takes on this sort of objection to love drugs,” Gordon

nevertheless thinks that my argument fails and is ultimately best seen as “a kind of cautionary note” (Gordon, 2023: 91, 111).

Rather than first summarizing the argument as I would summarize it myself, I will move directly to Gordon’s reconstruction of my argument below. But let me first just quickly say that I was interested in offering a skeptical take on both the possibility of initiating love relationships and the possibility of sustaining love relationships with the help of love drugs. If I understand her correctly, Gordon is primarily interested in love enhancements in the context of relationships that already exist, but that might need a boost of some sort. Second, I should perhaps also mention that Gordon discusses love enhancements both in the context of romantic love between adults and in the context of parental love of children. Like Gordon, I think it is very interesting to contrast and compare these two possible uses of love enhancements. But I will here focus on the former, since that’s what I was focusing on when I presented the argument Gordon engages extensively with in the final chapter of her book.

4 Gordon’s reconstruction of and criticism of my 2015 argument

I did various different things in my (2015a) article. For example, I presented some thought experiments intended to bring out the intuition that enhancement-generated attachments would be less appealing than love that comes about without the use of any enhancements. For example, consider the following two scenarios. In the first scenario, you think that your partner loves you and is able to love you without having to use any biomedical enhancements. But then you find out that they have been using and need to use biomedical enhancements to be able to maintain their attachment to you. My guess was that many people would find this piece of news somewhat disappointing. A second scenario I considered was the inverse of the first one: you think that your partner has been using love enhancements in order to be able to remain attached to you. But then you find out that they have not been using any biomedical enhancements. They are able and disposed to love you without the need for any biomedical enhancements. My guess here was that many people would welcome this piece of news.

This pair of examples suggests that there is something more appealing, on an intuitive level, about having somebody’s love without the use of enhancements as compared to having a partner who is attached to us because they are using enhancements. In addition to this sort of thought-experiment-based and intuition-pumping arguments, I also tried to offer a more analytical argument, based on a philosophical analysis of what people typically seek and value in desiring and valuing love relationships. It is this argument that Gordon focuses on and criticizes. I will now introduce her restatement of my argument. When I do so, I will quote extensively from Gordon’s text. There would be something silly about my interpreting Gordon’s interpretation of me, so it seems like a better idea to mostly quote directly what Gordon says about how she understands my argument.

4.1 Gordon's reconstruction of my 2015 argument

In introducing my argument, Gordon writes:

Nyholm submits that we desire and seek love without the use of love drugs (henceforth “unenhanced love”) *for its own sake*, and we cannot get that “particular intrinsic good of love” (2015[a]: 200) if love enhancements are in the picture. Nyholm makes this case, in short, by arguing that if love is enhanced, then key conditions on love as an intrinsically valuable good can't be simultaneously satisfied. (Gordon, 2023: 91).

The key conditions that I focused on in my article were inspired by a discussion of love in Philip Pettit's (2015) book *The Robust Demands of the Good*. As Gordon summarizes the three key conditions in my argument, they are:

(i) a *robust attachment condition*, (ii) an *internal factor condition*, and (iii) a *particularist condition*. [The] *robust attachment condition* on love requires that we keep loving and caring for our beloved even when the properties of our beloved change – for example, if our partner gets a new job or hair-style... The core idea regarding the *internal factor condition* is that, when in (romantic) love, we have some inner state (or disposition or attitude) that generates or contributes to generating our care and affection towards our beloved. [...] [And the] *particularist condition* on love can be understood as the requirement that the aforementioned internal factor is elicited by our partner in particular, in virtue of our beloved “being who they are.” (Gordon, 2023: 91).

How do these three conditions, as Gordon restates the argument, relate to the use of love enhancements and the question of whether they can help to bring about what we desire in seeking and valuing love?

Regarding the robustness condition, Gordon writes:

Nyholm thinks this condition counts in *favour* of drug-enhanced love, as it seems like love drugs could contribute to making our attachments even more robust than they are unenhanced. (ibid.)

I will come back to this claim and quibble with it below. But let us first get to what Gordon says about the other two conditions and their roles in my argument.

She writes:

Nyholm's key move is to maintain that the internal factor and particularist conditions aren't jointly satisfiable in the case of love drugs as used to facilitate romantic relationships. The crux of the idea is that if one requires drugs to meet the internal factor condition (*vis-à-vis* a partner), then it seems to follow that the particularist requirement will not be met, as the internal factor is elicited by drugs and not just by our partner's qualities. Thus, despite enhanced love unproblematically meeting the robust attachment requirement, Nyholm's thought is that it will fail either the internal factor or particularist condition. (Gordon, 2023: 92).

Gordon notes that, in this argument, “the kind of love at issue is understood as non-instrumental or final, where the object of love is valued for its own sake” (ibid.) So in summary, the argument, as Gordon restates it, is that:

to the extent that the love at issue is understood as an attitude or relation to a (would-be) loved individual where the attitude itself must involve a kind of valuing [of] that individual for the sake of properties of that individual, such love cannot be brought about via enhancement. This is because valuing something through an enhancement essentially involves valuing someone for a reason other than for (that beloved’s) own sake. (Ibid.)

Does Gordon think that the overall argument in my (2015a) paper successfully establishes that it is not possible to achieve the intrinsic good of love with the help of love enhancements of the sorts that Earp, Savulescu, and Sandberg envision in their writings on the topic? Very kindly, Gordon writes that “Nyholm’s argument is perhaps one of the more philosophically interesting objections to bio-medically enhanced love” (ibid.). Yet, alas! Gordon thinks the argument can be answered, and that love enhancements can be defended and seen as compatible with the creation of something close to love as it is conceived of in the three conditions that I adapted from Pettit’s (2015) book. Let’s now consider Gordon’s critical response to my argument.

4.2 Gordon’s response to my argument

As I mentioned in Sect. 2 above, Gordon thinks that any types of enhancements should respect the *achievement, freedom, agency, human nature, authenticity, and inequality-theoretic* desiderata and constraints that she adapts from the bioconservative take on human enhancements. And she also thinks that an enhancement counsellor should be there to guide and advise those who are considering using enhancements. This applies to couples considering using love enhancements, just as it applies to people considering any kind of enhancements. As Gordon sees things, it is possible for love enhancements to meet or respect these desiderata and constraints.

Additionally, Gordon also thinks that it is possible to defuse the skeptical argument from my (2015a) paper. In beginning her response to my argument, Gordon first quickly restates it as follows (I here quote this bit as well since it is important to her response to my argument):

Nyholm emphasises (in his particularist condition drawn from Pettit) that love is “robust” (and of the sort that we aspire to in a romantic relationship) only if our beloved is loved in virtue of their “being who they are” where the fact of their being who they are is what (for Nyholm) “elicits” whatever internal factor (e.g., emotion, belief, disposition) is triggered under the description of robust love. This is obviously a kind of love that we would be inclined to distinguish from “merely instrumental love” (as we might have if we loved someone or something for the sake of something else). (Gordon, 2023: 108).

Gordon writes—and I should note here that I am leaving out some details about Gordon’s thoughts on the relation between what I say and what Liao (2015) says about parental love in his work—that:

... what is relevant is whether enhanced love is conceptually incompatible with either (i) non-instrumental love (in the case of Liao’s parental love); or with (ii) robust love of the sort that requires the internal factor be triggered by someone’s being who they are. (Gordon, 2023: 109).

So, are there incompatibilities here, as suggested by my argument? Gordon thinks not.

Regarding the first point, she writes:

...there is no conceptual tension between love being enhanced and love being non-instrumental. To think otherwise would be to make a category mistake. The non-instrumental/instrumental distinction tracks a distinction in *ways of loving* what is loved; the enhanced/non-enhanced distinction tracks a distinction in the way that the love came into being or what sustains it. Non-instrumental love is as such compatible with enhanced and non-enhanced love no less than instrumental love is compatible with either enhanced or non-enhanced love. (Ibid.)

If the claim in the last sentence in this quote is correct, the next crucial question is whether there is an incompatibility between “enhanced love” and “robust love of the sort that requires the internal factor be triggered by someone’s being who they are.” Again, Gordon thinks that there is no such incompatibility.

Here, her reasoning is a little more subtle. To repeat, the issue boils down the whether or not there is compatibility between “enhanced love” and “love with a profile whereby the internal factor is elicited *in virtue* of the beloved’s being who they are” (Ibid.) Gordon writes:

...there is no conceptual tension. To think otherwise is to commit a fallacy whereby one conflates *causal* and *constitutive* explanations. (Ibid.)

To explain this point, Gordon makes use of an analogy that involves an example depicting a soccer game between two Scottish football clubs. The first club is called Patrick Thistle and the second Motherwell. Gordon asks us to consider the following proposition:

Patrick Thistle won the game in virtue of scoring one more goal than Motherwell. (Gordon, 2023: 110).

Gordon takes it that this means that Patrick Thistle’s having scored at least one more goal “*constitutively explains* their winning” (Ibid.) She then argues that even if we allow that Patrick Thistle won the game in virtue of having scored more goals, “we might at the same time allow all sorts of things that feature in Patrick Thistle’s *causal* history which play an indispensable role in the *causal* (as opposed to constitutive) explanation for why Patrick Thistle won” (Ibid.)

For example, all the players might have eaten a hearty and fortifying breakfast on the day of the game, they might have practiced harder than the other team, and so on. They might even, Gordon suggests, have used physical enhancements. And this might have been part of what enabled them to score more goals than the other team. All of this could be true at the same time as it is true that they won the game in virtue of having scored more goals (which is a different consideration than the aforementioned considerations about the causal history leading up to their ability to score at least one more goal than Motherwell).

Gordon assumes that her reader follows along with this line of reasoning. She then uses it in an argument from analogy in defense of the conclusion that “enhanced love” is compatible with “love with a profile whereby the internal factor is elicited *in virtue* of the beloved’s being who they are.”

Gordon writes:

Enhanced love is incompatible with robust love only if love’s owing to enhancement (perhaps depending causally on the enhancement) is incompatible with the beloved’s being who they are being that in virtue of which they are loved. However (given our example above) this would seem to be incompatible only on pain of denying that (following a 1–0 victory) Partick Thistle won in virtue of scoring more goals.

In other words, Gordon makes an analogy between (a) *loving somebody in virtue of their being who they are* and (b) *winning a game in virtue of scoring at least one more goal than the other team*. Second, having made that analogy between cases (a) and (b), Gordon suggests that both cases allow for the possibility that there is a causal history leading up to these cases that might involve enhancements, which are part of the causal explanation for why somebody is loved, in one case, or why a team wins a game, in the other case.

Notably, Gordon is willing to grant that if somebody would love another person “primarily” on account of the effects of love enhancements, then this attachment might not live up to the three criteria in my argument (that is, the robustness, the internal factor, and the particularist conditions). However, if the person loves the other person not primarily but only partly because of love enhancements, then Gordon thinks that this is perfectly compatible with their loving that other person in virtue of the other person being who they are.

5 Response to Gordon’s arguments

I will now respond to the various different parts of Gordon’s discussion of my argument. The first thing I would like to do is to quibble a little with what Gordon says about my take on the robustness condition and how it relates to potential love enhancements.

Now, it is true that I said in my 2015a paper that the robustness condition

can perhaps make it seem as if attachment-entrenching biochemical enhancements would be a great way of securing the intrinsic good of love: with their

help we could really cement the attachment we have for another in a very firm and robust way. It might seem as if biomedical enhancement could create an even truer and deeper love than anybody has yet been able to dream of. (Nyholm, 2015a: 190).

After saying this, I directly went on to talk about the other two conditions. This can of course make it seem as if I think that the robustness condition can be used to argue in favor of love enhancements as being a good means for creating and sustaining love. However, I am not sure how strong such arguments would be. That is the reason I was only saying that the robustness condition could “perhaps” be used in such arguments.

The reason for my skepticism about this is that I also think that the robustness condition could be used in an argument against the possibility of using enhancements to initiate and sustain love. This would especially be the case if love enhancements would be necessary in the sense that the person using the enhancements would not be able to love their partner without enhancements. If the person would not be able to sustain love for their partner without the help of enhancements, their love would be less robust in one important sense than the love of a person who is able to sustain their love for their partner without the help of any biomedical enhancements (cf. Arrell, 2020).

In a certain sense, then, a person’s attachment to their partner seems more brittle if it is dependent on the use of love enhancements and it could not be sustained without those enhancements. This does not necessarily mean that there would be no value—or indeed no intrinsic value—in what they would offer to their partner. But in line with the thought experiments all the way up at the beginning of Sect. 4, love that would be fragile or brittle in this way (i.e., love that would not be robust across scenarios in which no love enhancements are used) is a form of attachment that would strike many who value robust love as being less desirable than a love that is also robust across scenarios in which no enhancements are used.

Consider next the issue of whether there is a conceptual tension between love being enhanced and love being non-instrumental. Gordon thinks, as we saw above, that there is no tension. The former concerns the causal history of the state of loving, whereas the latter concerns the lover’s way of loving.

I agree that what causes somebody to love somebody can be distinguished from the issue of in what way(s) the person loves the object of their love. The question, however, is whether being able to distinguish these things is enough to establish that the causes of the ways in which we love people do not matter much and that any cause is as good as any other.

To reflect on what to think about this, we can consider a thought experiment. In this thought experiment, Cupid has a set of magic arrows such that if A and B are close to each other and Cupid shoots an arrow into A, this will cause A to immediately start valuing B in the way that somebody who loves B would do. That is, one can imagine that A is walking along, and then suddenly, Cupid pops up and shoots one of his arrows into A, which might cause A to start having an attitude of non-instrumental valuing towards B, who happens to be nearby. We can imagine that as an immediate result, A values B non-instrumentally. If we ask A how A feels about

B, A might say “I love B for B’s own sake in a non-instrumental way!” and be completely sincere. Would this way of causing an attachment be as good as any other cause?

Suppose that B actually wants A to love them. If so, I could imagine that B would much prefer that A would have come to love B because A had met B, gotten to know B, spent time with B, and built a shared history with B. In such an alternative second scenario, B might feel that the causal history behind A’s attitudes towards B was more flattering to B. B might also feel that it is more certain that A truly loves B. What this suggests to me is that even if it is possible to draw a distinction between the causes behind loving attitudes and ways of loving, what causes somebody to love somebody in a certain way can matter in a significant way to how we assess the value of the person’s loving us in that way.

In other words, it seems to me that we typically do not only care about the way in which somebody values us. We also want to be the cause—and we want our interaction with the person to be part of the cause—of their valuing us in this way. If somebody comes to value us and their relationship with us in a non-instrumental way because they get to know us, because they spend time with us, and because we start building a shared history together, then that is appealing in a different way than if they start valuing us and their relationship to us in a non-instrumental way because they are taking love enhancements. Or so it seems to me.

Consider next Gordon’s argument that involves her analogy between winning a soccer game in virtue of scoring at least one more goal than the other team and loving somebody in virtue of who they are. Both of these are compatible, Gordon argues, with there being a causal history behind these things that involve the use of biomedical enhancements. The success of this argument, it seems to me, partly depends on whether we should understand the phrase “in virtue of” in the same way in these two propositions. I am somewhat skeptical about this.

The rules of a game specify, among other things, under what condition one team has won over the other team. That is why, just as Gordon says, one team’s having scored at least one more goal constitutes a sufficient condition for the result that that team has won the game. At least this applies to certain games. The phrase “in virtue of” here means something along the lines of what constitutes a victory according to the rules of a certain type of game. But in the proposition that *A loves B in virtue of B’s being who they are*, the phrase “in virtue of” seems to suggest an at least partly causal reading, and not a purely constitutive reading having to do with the rules of the game of love or anything like that. Moreover, when B wants A to love them in virtue of who they are, I think that part of what B typically wants is that *B’s being who they are* is part of what causes A to love B.²

² Another concern one might possibly have about Gordon’s analogy is that according to the rules of many games, the use of certain forms of biomedical enhancements (“doping”) may disqualify a team from counting as the winner of a game, even if they score more goals than the other team, run faster, or whatever the object of the game might be. If it is found out after the fact, in other words, that the members of Patrick Thistle were using some sort of doping that is forbidden in the rules of football, this could mean that their having scored more goals than Motherwell might fail to make them the winners of the game. Their scoring more goals might not count as their winning because of their use of forbidden forms of enhancements. The analogy one might draw here is that perhaps somebody might not count as truly

It might be correct to say that “A loves B in virtue of B’s being who they are” partly means that A values B for B’s own sake. (So far, this is completely compatible with love enhancements’ being part of the causal history of why A has this attitude towards B, just as Gordon argues.) But I think that another part of what we typically have in mind when we talk about somebody’s loving their beloved in virtue of who they are is a causal idea: namely, that the beloved’s being who they are is a crucial part of what causes their lover to love them. Moreover, as I just argued in my response to Gordon’s discussion of the compatibility between enhanced love and non-instrumental ways of loving, on the face of it, there is something much more appealing about having the power or ability to bring forth love in another person by just being who we are and by just spending time with them, as compared to the other person’s having to use external means (such as biomedical enhancements) in order to come to have any similar form of attachment to us.

In summary, it seems to me that according to the types of ideals that many people associate with love, love should ideally arise as a result of the interaction between the lovers, whereby the parties involved, and their interaction, are the primary causes of their love. And this love should ideally be robust in a sense whereby it would remain in place even if no biomedical enhancements are used to secure the attachment. One of the things we want is that we ourselves and our interaction with our lovers are the main causes of their love for us.

In comparison, it is less appealing to imagine a scenario in which our being who we are and our interaction with our partners are not enough for love to be possible and in which the use of biomedical enhancements is therefore necessary in order for a love-like attachment to be sustained. For these reasons, I think that Gordon’s arguments in response to my skeptical argument about the possibility of getting everything we desire when we desire and value love as an end in itself can be achieved by means of using love enhancements are not successful. In other words, if love enhancements are needed in order to initiate or sustain love, the resulting attachment is ultimately less desirable than a form of love that doesn’t require the use of any biomedical enhancements.

6 Concluding remarks

Above, I have just tried to defend the argument in my (2015a) paper against Gordon’s (2023) criticisms of my argument in her book. I do not agree, in other words, that she has shown that my argument is better considered a cautionary note than a successful argument against the possibility of realizing the intrinsic value of love and everything associated with it by using love enhancements to initiate and/or sustain love-like attachments. Does this mean that there are very deep disagreements between me and Gordon when it comes to this topic? I suspect not.

Footnote 2 (continued)

loving another person if they are using a form of love “doping” to make themselves have the sorts of attitudes and dispositions that we expect a lover to have towards their beloved.

I am perfectly willing to accept that what could be created and sustained with the help of enhancements in the kind of scenarios that Gordon is interested in would be something that can be regarded as having a non-instrumental value and that might even be close to being as non-instrumentally valuable as a loving relationship sustained without the use of love enhancements can be. After all, Gordon agrees with me that if love enhancements are the primary reason why somebody has a loving type of attitude towards another person, then this seems less like the kind of love that we value than if the primary reason instead is that the person is who they are and that they have spent time together with their beloved. What Gordon argues for is the idea that if love enhancements are used to boost a loving relationship that is in need of some sort of boost, and love enhancements would indeed successfully work as such a love booster, then this would be compatible with the resulting love's having the same kind of intrinsic or non-instrumental value as a love relationship without any use of love enhancements. In other words, it seems that Gordon and I agree that the more prominent a role that love enhancements would need to play in order for a love-like attachment to be possible between prospective lovers, the less obvious it is that the resulting type of relationship would be as appealing or as desirable as a loving relationship that can be brought about by the people involved just being who they are and by their just spending time together.

Perhaps, the main disagreement between me and Gordon when it comes to this whole issue is whether the phrase "A loves B in virtue of B's being who they are" should be given a causal or constitutive reading. I think that this phrase suggests a causal relationship between B's being who they are and A's loving B. Gordon disagrees. However, Gordon does not, as far as I can tell, fully explain how one should understand her constitutive reading of the phrase "A loves B in virtue of B's being who they are." Gordon makes an analogy with the proposition that a team has won a game in virtue of having scored at least one more goal than the other team. But it is unclear (to me at least!) how exactly one would best translate this to the case of love. As mentioned above, the rules of soccer specify that in order for a team to win a game, they have to score at least one more goal than the other team. Does Gordon think that there is a similar sense in which the rules of love specify that in order for a person to love another person, there is something in particular that they need to do? If so, what exactly? This is something I would like to discuss with Gordon on occasion.

I will end by again noting that I think that Emma Gordon's book is an excellent contribution to the philosophical debate about human enhancement. Even if I don't fully agree with all of Gordon's arguments discussed in Sects. 4 and 5 above, I think those arguments are very interesting and worth engaging with, and I am not sure I have been able to offer a compelling rebuttal of Gordon's objections to my arguments. I mostly agree with the overall project of the book. Moreover, I think that the book offers a type of nuance that is sometimes missing in philosophical debates about human enhancement, which can sometimes be overly combative and polarizing in nature. So, I am glad to have had this opportunity to engage in debate with Gordon about the details of possible arguments for or against the possibility and desirability of love enhancements. I hope we will soon have another opportunity to continue the discussion.

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References

- Arrell, R. (2020). No love drugs today. *Philosophy and Public Issues*, 10(3), 45–60.
- Bostrom, N., & Ord, T. (2006). The reversal test: Eliminating status quo bias in applied ethics. *Ethics*, 116, 656–679.
- Earp, B., & Savulescu, J. (2020). *Love drugs: The chemical future of relationships*. Stanford University Press.
- Fisher, H. (2004). *Why we love: The nature and chemistry of romantic love*. Holt.
- Gordon, E. (2023). *Human enhancement and well-being: A case for optimism*. Routledge.
- Gupta, K. (2012). Protecting sexual diversity: Rethinking the use of neurotechnological interventions to alter sexuality. *AJOB Neuroscience*, 3(3), 24–28.
- Liao, S. M. (2015). *The right to be loved*. Oxford University Press.
- Marshall, A. (2012). *Make love like a prairie vole*. Bloomsbury.
- More, M., & More, N. (eds). (2013). *The transhumanist reader: Classical and contemporary essays on the science, technology, and philosophy of the human future*. Wiley-Blackwell.
- Nyholm, S. (2015a). Love troubles: Human attachment and biomedical enhancements. *Journal of Applied Philosophy*, 32(2), 190–202.
- Nyholm, S. (2015b). The medicalization of love and narrow and broad conceptions of human well-being. *Cambridge Quarterly of Healthcare Ethics*, 24(3), 337–346.
- Pettit, P. (2015). *The robust demands of the good*. Oxford University Press.
- Savulescu, J., & Sandberg, A. (2008). Neuroenhancement of love and marriage: The chemicals between us. *Neuroethics*, 1(1), 31–44.
- Spreeuwenberg, L., & Schaubroek, K. (2020). The non-individualistic and social dimensions of love drugs. *Philosophy and Public Issues*, 10(3), 67–92.

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