

1 Introduction

As students of popular song know, love is a many-splendoured thing; it is all you need and certainly what the world needs now; it is like a butterfly, as soft and gentle as a sigh. Unfortunately, it is also like a butterfly in its tendency not to stay in place for too long and to fly away without warning. Sooner or later, love may well peter out, and in doing so it will tear us apart again. Many of us accord romantic love a central place in our lives, yet we appear to have little control over its presence in them.

This sorry state of affairs may be on the brink of changing. In the opinion of some thinkers, the fact that scientists have begun successfully to identify the neurochemicals and brain processes associated with the various stages of romantic love means we are facing the prospect of bringing those stages under greater control. If our relationships are fading, it may soon be possible to reinvigorate them through pharmaceutical interventions, used perhaps in combination with more conventional relationship therapy. One way of doing this might be by exogenous administration of the neurochemicals that are produced endogenously when we are in the grip of love.

The biological anthropologist Helen Fisher sees love as having three phases: lust, attraction, and attachment.¹ Lust drives us to seek out any appropriate partner for mating; it is not focussed on a particular person, but has, so to speak, a diffuse object. Attraction narrows our attention down to a particular individual and is typically associated with the early, more passionate stages of a relationship. Attachment represents the formation and maintenance of a stable pair bond and is thus associated with the more settled phase of a relationship, after the decline of the initial, tempestuous chapter.² Each of those phases, research shows, is associated with its own brain systems and its own set of neurotransmitters or hormones. For example, testosterone is implicated in lust; norepinephrine and dopamine in attraction; and oxytocin and vasopressin in attachment. If we were deliberately and appropriately to administer such substances, then, the hope is that we could manipulate the higher-level romantic phenomena with which they are associated, bringing those phenomena in line with our preferences and values. So, for instance, a couple who value their relationship, but find it to be steadily fading, may be able to rescue it with – alongside relationship counselling perhaps – carefully targeted pharmaceutical remedies. So-called ‘love drugs’ could help us to meet our preferences and achieve what we value in relationships.

That prospect fills some with jubilation but is apt to make others feel decidedly uneasy. Is it ethically permissible to manipulate our romantic neuro-machinery in this way? If it is permissible, is it also desirable? Philosophical inquiry into such issues is still relatively young. Any attempt to get to grips with

it needs not only to take into account, but primarily to concentrate on, the agenda-setting writings of a small group of co-authors that clusters around the Oxford moral philosopher Julian Savulescu. The most frequent of Savulescu's collaborators in this area is Brian D. Earp, but other contributors to their work have been Anders Sandberg (who, in 2008, co-wrote with Savulescu the first of the group's papers on this topic³), and the psychologists Olga A. Wudarczyk and Adam Guastella. In what follows, I will refer to this group, and its various subsets, as 'the authors' or 'our authors'.

While the authors' earlier work on the topic tends to focus on what we might call, coining a phrase, endomimetic love drugs (by which I shall mean exogenously administered doses of love-associated neurochemicals that are endogenously produced), their output as a whole is not restricted to concern with such substances. The extension of the expression 'love drugs' is, in their hands, extraordinarily wide. They take it to mean, roughly, any drug at all that affects lust, attraction, or attachment. SSRIs, for example, can be categorized as love drugs on this understanding, since ridding a partner of depression may enable a relationship to get back on track.⁴ Viagra is sometimes classified as a love drug by our authors,⁵ and sometimes not,⁶ though when it is, it is on the assumption that engaging in a certain style of sexual activity may contribute to the health of a relationship.

In their most recent work, starting with Earp and Savulescu's 2020 book *Love Is the Drug: The Chemical Future of Our Relationships*,⁷ the authors' emphasis has shifted towards the use of psychedelics (both classic psychedelics such as LSD and psilocybin, and entactogens such as MDMA) in the context of relationship therapy. This is, strictly speaking, only a shift in emphasis – MDMA is mentioned in passing in Savulescu and Sandberg's initial paper⁸ – but it is nonetheless a seismic one, and one that seems to have modified their stance somewhat. When they were concerned chiefly with the issue of endomimetic love drugs, their conclusion, or part of that conclusion, was straightforwardly that use of love drugs would be desirable: something that people in appropriate circumstances would have good reason to undertake. As psychedelics have crept softly centre stage in their work, the stance has become that we have good reason, not yet to *use* love drugs, but to carry out research into their efficacy and safety. This reflects a developing position in contemporary psychiatry, which maintains that while psychedelics show considerable potential for a range of legitimate therapeutic applications, much more research is needed before we can confidently and routinely deploy them.⁹

Our authors also argue for the use, in certain contexts, of what they call anti-love drugs: chemicals that might be able to quell unwanted or inappropriate passions, disrupting, for example, attachment to abusive partners.¹⁰ A substance

may count as an anti-love drug even though it is not deliberately employed to quash romance. For example, an unfortunate side effect of SSRIs in a small number of patients is the blunting of the feelings of empathy and concern essential to a healthy romantic relationship.¹¹

Some philosophers have objected that the expression ‘anti-love drugs’ is a misnomer, given a number of the applications that Savulescu and his colleagues have in mind for the substances so named. For example, it is at least possible (though controversial) to question whether the person who is emotionally dependent upon an abusive partner feels, specifically, *love* for that partner.¹² In addition, the authors regard the combatting of paedophilic urges as an application of anti-love drugs; as Andrew McGee points out, it is surely inaccurate to suggest that what is being extinguished in such a case is anything we would want to describe as love (the etymology of the expression ‘paedophilia’ notwithstanding).¹³ What is more, Robbie Arrell has disputed whether the sort of deadening of feeling that on rare occasions accompanies SSRI use entails a concomitant dimming of an agent’s love for a partner.¹⁴

In order to keep matters manageable in the current work, I will only be considering questions about the use of love drugs; I will not also cover the use of so-called ‘anti-love drugs’. Nor will I be addressing the use of everything that our authors would count as a love drug. The deployment of some medications in the way they envisage seems to me to be largely unproblematic and so not to warrant a great deal of scrutiny. If treating someone with an SSRI alleviates their depression and allows them to re-engage with a partner, then the intervention seems essentially to be a ‘ground-clearing’ exercise. That is, it removes an external impediment to what would otherwise be a well-functioning relationship. There is no manipulation of love here, only the opportunity to give it free rein. The use of psychedelics as love drugs is more controversial. Since our authors commit themselves only to the view that it merits further research, and since it is worthy of much more consideration than I have space to give it here, I leave the topic to one side.

My attention in what follows will fall, then, exclusively on our authors’ arguments for the use of endomimetic love drugs. One reason for this focus is that the use of such drugs may appear at first sight to be less controversial than the use of other substances for the same purpose. The clue here lies in my neologism ‘endomimetic’. Ingestion of, say, oxytocin via a nasal spray mimics what happens when people gain or strengthen a romantic attachment in more time-honoured ways. In fact, even to talk of mimicry here is potentially misleading. The effects in the two cases – the ‘natural’ case and the case where a deliberate pharmaceutical intervention is undertaken – are identical. The brain undergoes exactly the same chemical changes in

each. Only the aetiology differs: any imitation ends once administration is complete. It may be difficult to see, then, how there can be any moral difference between the two types of case (assuming that certain ethical thresholds are met in the situation in which love drugs are taken, for example, that informed consent on the part of the drug users is present) or why one case might be desirable and the other not. Perhaps, as our authors write: ‘There is no morally relevant difference between marriage therapy, a massage, a glass of wine, a fancy pink, steamy potion and a pill. All act at the biological level to make the release of substances like oxytocin and dopamine more likely.’¹⁵ There is, admittedly, something not *quite* right about what Savulescu and Sandberg say here. If the pill or the steamy potion (or the nasal spray) contain oxytocin, taking them does not simply *increase the likelihood* of oxytocin being in the system, in the way that a massage might. Still, the neurochemical outcome will be the same as when the stars align, and the massage happens to work its magic. If there is nothing wrong with the use of massage, it is perhaps difficult to see how there could be anything wrong with the administration of exogenous oxytocin. Both are means of introducing oxytocin to the system. It is just that one is more reliable and direct than the other.

It is precisely here, perhaps, that an objection may be raised. As just suggested, the deliberate administration of oxytocin does rather more than make the presence of oxytocin in the brain more probable. It consequently gives *greater* control over our romantic machinery than, say, the use of massage or the sharing of a bottle of wine. As we shall see in Section 3, when we come to reject a position that I call ‘isolated-state reductionism’, increased control over one aspect of our romantic machinery does not automatically produce increased control over romantic attachment, since on any plausible picture a whole range of neural factors need to co-operate for attachment to be formed or strengthened. But still, we might feel that the greater control that accompanies the use of endomimetic love drugs creates ethical issues or questions about the value of the resulting state, which are absent in the more ‘natural’ cases.

Our authors appear to concede that there could be such a thing as undue control over our romantic lives,¹⁶ though they are vague about precisely why some levels of control would count as excessive, and where the threshold lies between acceptable and unacceptable levels. Nonetheless, they seem convinced that, wherever that threshold is to be found, the use of endomimetic love drugs is extremely unlikely to cross it. There is, they point out, a wide spectrum of conceivable levels of manipulation between those offered by traditional, rather hit-and-miss means of attempting to secure attachment, on the one hand, and full-blown mind control on

the other.¹⁷ Love drugs would provide greater control than traditional means (or traditional means alone), otherwise there would be no point in taking them. But they would not deliver a problematic degree of control.

We might wonder, as Michael Hauskeller does,¹⁸ how the authors know this, especially since they offer no criteria for when a desirable, or at least palatable, measure of control would tip over into the realm of the excessive. However, and very importantly, by the end of the current work I hope to show that the *degree* of control provided by love drugs is not the issue that should primarily concern us; we should feel more uneasy about the *kind* of control they may put in our hands. Indeed, our authors appear to notice something of this sort at one point, in their characterization of what would be wrong with a love potion that could conjure attraction from scratch:

Note that the goal . . . is not to kindle some arbitrary attraction out of thin air like love potions do in fairy tales, but to help existing love survive the test of time. Scientists do not yet understand the attraction system well enough to allow us to conjecture whether love potions of the fairy-tale variety are even possible. And even if they were, they would pose a number of moral problems since they would create inauthentic relationships with no real grounding in the actual compatibilities of the individuals involved. In contrast, our arguments examined the possibility of using love drugs to make *authentic* relationships last.¹⁹

The problem with quasi-magically creating romantic attraction *ex nihilo*, then, is not so much that it would involve the wielding of an excess of control, but that the control wielded would be of an inappropriate sort. It would be such as to create an inauthentic relationship, a relationship not founded in a genuine compatibility or, we might say, on genuine *reasons*. This latter way of putting the problem will prove to be very important to an argument I will advance towards the end of this Element.

The quoted passage also partially explains why our authors for the most part (and especially as time progresses) steer clear of recommending or suggesting that we might use love drugs to induce new relationships. Instead, their emphasis is on using pharmaceuticals (or, in the case of psychedelics, looking carefully at the case for using them) to help bolster flagging relationships, in which Fisher's third phase of love – attachment – is diminishing or has been largely or completely extinguished. Accordingly, in addition to focussing on endomimetic love drugs and eschewing consideration of anti-love drugs, the current Element will concentrate exclusively on their prospective use in rejuvenating attachment in existing relationships.

I will start, in the next section, by setting out our authors' core argument for the use of (some, non-psychedelic) love drugs, including endomimetics, in order to strengthen attachment. That done, I will, in Section 3, take

a closer look at the claim, essential to the core argument, that the action of certain neurochemicals is *associated* with the phenomena of love and attachment. I will note that in advancing this claim, our authors are eager to avoid a number of different forms of reductionism and to do so in order to quell two concerns that might make us reluctant to embrace the use of love drugs.

In Section 4, I will explain that there appear to be two distinct accounts of the action of neurochemicals such as oxytocin to be found in both the scientific and the ethical literature. I call these the productive account and the facilitative account. According to the former, oxytocin can, when certain enabling conditions are in place, produce or strengthen attachment directly. According to the latter, what is directly produced or strengthened by the action of oxytocin is not attachment, but some mental state or behavioural repertoire that provides fertile ground for the development or deepening of attachment, while not compelling it. I will conclude that, for the purposes of a work such as this one, we can afford to be agnostic about whether the productive or the facilitative account is correct, since both give us reason to suspect that the use of endomimetic love drugs would not be desirable.

In Section 5, I will investigate the possibility that there is some sort of tension between the object (in the sense of ‘focus’) of romantic love, and the object (in the sense of ‘purpose’) of someone’s taking love drugs. I will conclude that often there may be, though we can easily envisage circumstances – which therefore would be the best sorts of circumstances in which endomimetic love drugs could be used – where there would not. Even so, it is not obvious, given what I go on to say in Section 6, that these best circumstances would thereby count as ideal or unproblematic.

In that section, I will ask whether the states that would result from the use of endomimetic love drugs, even when used in the best possible circumstances, could authentically qualify as love or could provide a foundation on which a genuine love might be built. Relatedly, the following question will be posed: does the object of an attachment strengthened through the use of endomimetic love drugs have reason to value that attachment, and does its subject have reason to endorse it? I will list three possible outcomes of taking endomimetic love drugs. If either one of the first two possibilities is actual, the state produced will not count as authentic love, nor will it provide a plausible basis for such love. If, on the other hand, the third possibility is actual, then the state produced may either be, or constitute fertile ground for, authentic love. Nonetheless, couples who use love drugs would have no way of *knowing* that the third possibility is actual and so would be inescapably uncertain about whether the state they find themselves in is authentic love or not.

In the investigation that follows, a couple of key strategies will be adopted. First, I will accept as beyond question that there is some correlation between neural goings-on (the release of certain hormones, the activation of certain neural pathways, and so on) on the one hand, and higher-level romantic phenomena on the other. Secondly, we need to bear in mind that the purpose of using love drugs is not *ultimately* to bring about certain chemical changes in the user, but to do so only as a means of producing or making room for characteristic romantic phenomena, our knowledge of which precedes (or may precede) any awareness of their neural underpinnings. In other words, in taking love drugs at all, it is *love as we have always known it, and as we have always valued it*, that we are concerned to produce or enable. That being the case, we will be concerned to ‘save the appearances’ where love is concerned. If pharmaceutical intervention leads either to our coming to understand love in a manner incompatible with the features of love that we value, or for some reason necessarily fails to produce those features, then such intervention will undermine its own goals.

My conclusion will be that we have cause to be circumspect about the prospective use of endomimetic love drugs. There are reasons to suppose that the states of attachment produced or facilitated by their use would not be desirable, either for their subjects or for their objects. That is, they either would not count as authentic love and so would not be the states at which agents would aim in taking love drugs, or, while they would count as authentic love, there would always be sufficient reason for their subjects and objects to question their authenticity. At the very least, I want to suggest that the optimism our authors display concerning endomimetic love drugs is premature. There are pressing issues that cry out for consideration before we can confidently endorse the use of such substances, and the authors either do not entertain those issues or, insofar as they do, neglect to give them their due weight.

It will be noted that my conclusion appears simply to be one concerning the probable *undesirability* of using endomimetic love drugs. It may be pointed out that to pronounce their use undesirable is not necessarily to maintain that it would be unethical. This is true, given a certain narrow understanding of the expression ‘unethical’. It may not be morally impermissible for someone to take a substance that either does not produce the results they are aiming at in taking it or will leave them inescapably uncertain that those results are in place. Of course, it may be unethical to market it as delivering results that, in fact, it cannot produce (or, for all its users know, may not produce) or to engage in costly research into the production of outcomes that there is no good reason for anyone to desire.

In addition, though, there is a wider understanding of ‘ethics’ in which questions of desirability have a central place: an understanding that focuses on questions about the ingredients of the good life. It makes sense to ask whether an attachment that is, in whole or in part, the outcome of the use of endomimetic love drugs could authentically count as such an ingredient in just the same way as its naturally produced counterpart almost certainly does.

2 The Core Argument for the Use of Love Drugs

The core argument for the use of (chiefly, endomimetic) love drugs, advanced by Earp, Savulescu, Sandberg, and their colleagues, is a remarkably straightforward and simple one, which can be stated with relative brevity. The bulk of the work the authors have produced on the topic of such drugs, then, involves their elaborating upon and defending that argument’s various stages, anticipating objections to it, and responding to the counterarguments of their critics.

The authors’ most enduring, prominent, and definite conclusion is that the use of (non-psychedelic) love drugs is morally permissible and desirable. That is, couples have a *moral right* to use love drugs to help deepen or rescue their relationships, should they wish to, but they also have *good reason* to use them. How do the authors reach this twin conclusion?

We can set out their argument as follows:

- There is a three-way clash between (1) our evolved natures; (2) our relationship values and the conditions of our personal happiness; and (3) certain facts about contemporary human life, especially in affluent societies.
- In particular, so far as (1) is concerned, our species evolved, in the Pleistocene epoch, to form pair bonds that would last long enough to ensure the rearing of children. At that distant point in our history, the human life span would have been around twenty to thirty-five years, so there would have been no selection pressure for any great longevity in relationships. The biological machinery underlying our romantic lives and our attachment to partners was ‘designed’ to sustain what seem to us to be relatively short relationships. In the period in which they first arose, those pair bonds would probably have been ‘till death do us part’.
- Turning to (2), we can note that natural selection is concerned only with evolutionary fitness: that is, with our capacity to pass on our genes successfully and ensure our offspring gain the best chance of surviving long enough to do the same. The ‘aims’ of natural selection, then, are not necessarily in accord with our individual goals. We are each greatly concerned with and place considerable value on our own happiness, and successful relationships are a prime source of such happiness. Quite apart from their instrumental

- worth, we very often also value relationships for themselves (as we shall see in Section 5, at least one philosopher thinks that this point does not receive its due emphasis in the authors' work and that it often appears as something of an afterthought). However, where the process of natural selection happens to produce personal well-being or delivers what we value, it does so only as a side effect of features that promote fitness. If we rely on blind evolutionary forces to provide lives that are fulfilling for us, we will likely be disappointed. What is more, dominant social norms concerning relationships stress that marriage ought to be a life-long commitment, and that our relationships ought to be monogamous. But such values, in combination with our evolved natures, are not easily followed, given our contemporary modes of existence.
- This brings us onto (3), the final strut in our discordant situation. Our life expectancy – again, at least in affluent countries – is considerably longer than it was at the time that our romantic neurochemistry evolved. Biologically, it is still as if we were living in the Pleistocene, with a need to sustain relationships for no longer than around fifteen years at most. Thus, our evolved nature is a poor match for current relationship norms – in many cases, attachment will wane simply because the underlying biology is not equipped to maintain it (in their initial paper, Savulescu and Sandberg note that the median duration of those modern marriages that eventually break down is around eleven years, a period to which the fifteen years of a Pleistocene pair bond is ‘surprisingly close’²⁰). As the authors neatly put it, modern relationships often ‘outlast their evolved scaffolding’,²¹ and, as a result, lose their vibrancy and colour. There are other factors in modern life that put pressure on the ideal of a long-lived, monogamous relationship. For example, the availability of reliable methods of birth control and the potential for far-flung travel (away from the gaze of one’s spouse and the prying eyes of one’s local community) both present prime opportunities for infidelity, a major cause of relationship breakdown.²² The headline is this: the neural systems that are responsible for the maintenance of pair bonds are not at home in contemporary affluent society.
 - Predictably, the conflict caused by this three-way clash between recalcitrant biology, personal values, and the conditions of contemporary life can have a significant and detrimental effect on our well-being. Until recently, had we wished to avoid that clash, our only choices would have been to modify our values and/or societal norms around marriage and relationships, or to alter the conditions of our existence. The former move would have been extremely difficult or nigh-on impossible, while it is hard to understand that the latter move could have required anything reasonable of us. Should we purposely decrease our life expectancies? Should we permanently root

ourselves in small communities, where the possible disapproval of our fellows could act as a deterrent to illicit affairs, and eschew travel? (The authors mention other possible interventions, in the shape of covenant marriages or similar arrangements that significantly raise the costs of divorce, but these seem in many ways undesirable and at any rate somewhat desperate, and possibly ineffectual, measures.²³) Certainly, deliberately altering our neurochemistry in order to support attachment to our partners has not hitherto been an option.

- However, we now find ourselves with a developing knowledge of the neurobiological underpinnings of relationships: we have, that is, a growing awareness of the nature and action of the hormones, neurotransmitters, and neural pathways implicated in love. To the extent that this body of knowledge grows, so too will our ability to intervene, through the use of so-called love drugs, in the structures of lust, attraction, and attachment that form the basis of our romantic lives. In getting our biology under control in this way, we will be freed from its dominion – in particular, we will be able, at least in some degree, to mould it so that it is a better fit for our values and aspirations and makes a greater contribution to our well-being.
- But would such control be ethically acceptable? Well, plausibly there exists, as a specialized instance of a wider ethical principle of autonomy, a principle of *marital* autonomy, which holds that, other things being equal (so long as no-one is harmed, coerced, and so on), ‘Couples in a relationship should have privacy and freedom to form and act on their conception of what a good relationship is for themselves People should be free to shape their relationship in the way which best fits them’.²⁴
- Therefore (and this is the first part of the authors’ conclusion), since other things either are equal or can be made equal through careful regulation and so on, it is morally permissible (on the grounds of the principle of marital autonomy) for couples to attempt to sustain or rescue their relationships through the use of love drugs, if and when such drugs become available.²⁵
- Break-ups of relationships bring much suffering and heartache, while being in a loving relationship brings with it well-documented hedonic and health benefits. In addition, as mentioned above, we tend to accord intrinsic value to long-lasting, successful relationships. Relationships of that sort are also consistent with various deeply embedded social norms. There is, then, good reason to maintain and, where appropriate, rescue such relationships.²⁶
- Therefore (the second part of the authors’ conclusion), given that it is morally permissible to make use of love drugs, there can, in many cases, also be good reason to do so.