CHAPTER 7

The Ethics of Memory Dampening

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Suppose we could erase memories we no longer wish to keep. In such a world, the victim of a terrifying assault could wipe away memories of the incident and be free of the nightmares that such memories often cause. Some memories, however, even quite unpleasant ones, are extremely valuable to society and ought not be eliminated without due consideration. An assault victim who hastily erases memory of a crime may thereby impede the investigation and prosecution of the perpetrator. In a world

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with memory erasure, our individual interest in controlling our memories may conflict with society's interest in maintaining access to those memories.

While true memory erasure is still the domain of science fiction,[1] (Eternal Sunshine of the Spotless Mind, 2004; Men in Black, 1997), less dramatic means of dampening the strength of a memory may have already been developed. Some experiments suggest that propranolol, an FDA-approved drug, can dull the emotional pain associated with the memory of an event when taken within six hours *after* the event occurs (Pitman et al., 2002; Vaiva et al., 2003). The effects have been hard to replicate, however, and researchers have turned to a variety of other approaches to alter the factual and emotional components of memory.[2] I will address such efforts generally in ways that aren't tied to propranolol or any currently existing technology so that we can look at the underlying ethical issues that might someday be presented.

The President's Council on Bioethics (the "Council")[3] engaged in a similar exploration in a series of hearings in 2002 and 2003 and in a report that came out of those hearings, *Beyond Therapy: Biotechnology and the Pursuit of Happiness* (President's Council on Bioethics, Beyond Therapy: Biotechnology and the Pursuit of Happiness, 2003 [Beyond Therapy]). By and large, the Council was skeptical of the merits of memory dampening, raising concerns that memory dampening may: (1) prevent us from truly coming to terms with trauma, (2) tamper with our identities, leading us to a false sense of happiness, (3) demean the genuineness of human life and experience, (4) encourage us to forget memories that we are obligated to keep, and (5) inure us to the pain of others. While the Council

[1] In *Freedom of Memory Today*, I describe legal and ethical issues raised by what purports to be a real-life case of memory erasure (Kolber, 2008).

[2] In recent years, other studies have both provided additional findings about propranolol's capacity to dampen memories about other drugs' effects on memory formation. (*see, e.g.*, Kindt & Soeter, 2018, reporting successful use of propranolol and sleep to dampen fearful memories in humans, Vallejo, et al., 2019, using propofol and sleep to impair reconsolidation of human episodic memories, and Kaser, et al., 2017, finding that subjects with remitted depression given modafinil scored higher on tests of episodic memory).

[3] In 2001, George W. Bush created the Council by executive order. Exec. Order No. 13237, 66 Fed. Reg. 59851 (Nov. 28, 2001). In recent decades, all US presidents have had some sort of bioethics commission of their own with the exception of Donald Trump (Appel, 2019).

did not make policy recommendations concerning memory-dampening drugs, one might ask whether the kinds of concerns raised by the Council could justify prohibiting or broadly restricting their use. I argue that many of these concerns are rooted in controversial premises about whether it is prudent to modify our natural abilities to remember and, as such, they do not offer widely-shared reasons to broadly restrict memory dampening. Other concerns expressed by the Council can be addressed with only modest regulation. In this chapter, I analyze the novel ethical issues that could be presented by memory-dampening technology and argue that the Council's concerns do not provide grounds for broad legal restrictions on its use.

Prudential Concerns

One series of concerns set forth by the Council suggests that memory dampening will in some way damage the psychological well-being of patients or otherwise degrade or dehumanize the quality of their lives. The Council claims, for example, that the old-fashioned process of dealing with negative memories has adaptive effects on the individual and that pharmaceutical solutions may sever our connection with real world experiences and weaken or otherwise damage our sense of identity. I call these the Council's "prudential concerns," because, though they are presented as ethical concerns, they focus on ways in which memory dampening may prevent a particular individual from leading a meaningful, flourishing life. They are not quintessentially ethical concerns because the Council does not argue that we have ethical obligations *to other people* to lead our lives in the ways that the Council finds meaningful and fulfilling.

I will argue that this set of concerns serves principally to offer guidance to individuals and medical professionals about when to dampen memories. Taken as advisory comments, the Council's prudential concerns may prove helpful to those who accept the widely disputed premises on which they are based. More importantly, however, because they are founded on widely disputed premises, they fail to carry sufficient force or to be of sufficient generality to justify broad-brushed restrictions on memory dampening.

A. The Tough Love Concern

The Council claims that memory dampening, by offering us a solution in a bottle, allows us to avoid the difficult but important process of coming to terms with emotional pain. There are two ways to understand the concern. The first is that there is something false or undeserved about the manner in which memory dampening eases distress. Gilbert Meilaender makes this point in his essay on memory dampening where he claims that, rather than erasing traumatic experiences, "it might still be better to struggle—with the help of others—to fit them into a coherent story that is the narrative of our life" (Meilaender, 2003, 21–22). "Our task," according to Meilaender, "is not so much to erase embarrassing, troubling, or painful moments, but, as best we can and with whatever help we are given, to attempt to redeem those moments by drawing them into a life whose whole transforms and transfigures them" (Id., 22).

People have divergent views, however, about what it means to transform and transfigure our experiences into "a coherent story" (Id., 21). It seems quite plausible that one could craft a coherent life narrative punctuated by periods of dampened memories. Moreover, it is open to debate how important it is that one's life story be coherent or otherwise neatly packaged. Some research suggests that those with narcissistic, self-enhancing personalities tend to be particularly resilient after traumatic experiences (Bonanno, 2004, 25–26; Bonanno, 2005, 984–6, 994). Yet, while such personality traits may make it easier to cope with traumatic events, they do not necessarily serve us well in other aspects of our lives[4] (Bonanno, 2005, 985). Thus, it is at least a complicated matter whether we should seek to develop those aspects of our personalities that help us rebound after trauma.

Furthermore, even if one shares Meilaender's preference to redeem and transform our experiences without memory dampeners, two additional

[4] Bonanno writes: "[B]ehaviors or dispositions that help people to cope with unusual and extremely aversive events might also carry with them a serious cost" (Bonnano, 2005, 985). Those with a self-enhancing bias, although they appear to be particularly resilient to trauma, "score highly on measures of narcissism... and with repeated contacts, tend to evoke negative impressions in unfamiliar peers" (Id. (citations omitted)).

responses are suggested. First, many experiences are simply tragic and terrifying, offering virtually no opportunity for redemption or transformation. For example, after a 1978 plane crash in San Diego, desk clerks and baggage handlers were assigned to retrieve dead bodies and clean up the crash site[5] (Butcher & Hatcher, 1988, 728). Emotionally unprepared for this task, many of them were so distraught that they were unable to return to work. In such cases, it seems unlikely that the traumatized employees should, in Meilaender's words, "redeem those moments by drawing them into a life whose whole transforms and transfigures them" (Meilaender, 2003, 22). Most would agree that such employees should not have participated in the cleanup in the first place, and, hence, they should not be required or expected to bear the emotional burden of having done so.[6]

Second, even if it is better to weave traumatic events into positive, life-affirming narratives, many people are never able to do so. Memory-dampening drugs may enable such people to make life transformations that they would be *incapable* of making in the absence of the drugs. For others, pharmaceuticals may drastically shorten the time it takes to recover from a traumatic experience. Suppose a person spends ten years coming to terms with a traumatic event that could have been surmounted in two years with pharmaceutical assistance. While he might be viewed as heroic by Meilaender, others might view him as extremely obstinate. Therefore, even in those instances when positive human transformation should accompany traumatic experience, there may well be a role for memory dampening to facilitate the process.

The more modest version of the "tough love" concern merely states that "[p]eople who take pills to block from memory the painful or hateful aspects of a new experience will not learn how to deal with suffering or sorrow"[7] (Beyond Therapy, 2003, 291). This concern, however, merely fights the hypothetical existence of effective memory-dampening drugs.

[5] This example was also raised by James McGaugh at the Council's hearing.

[6] The Council acknowledges that if "bitter memories are so painful and intrusive as to ruin the possibility for normal experience of much of life and the world," the "impulse" to dampen those memories is "fully understandable." The Council quickly retreats, however, adding: "And yet, there may be a great cost to acting compassionately for those who suffer bad memories, if we do so by compromising the truthfulness of how they remember" (Beyond Therapy, 2003, 230).

[7] The Council asks: "What qualities of character may become less necessary and, with diminished use, atrophy or become extinct, as we increasingly depend on drugs to cope with misfortune?") (Beyond Therapy, 2003, 208).

If a memory-dampening drug increases the overall psychological distress of patients by being addictive or by otherwise leading them to make poor choices, it will be unappealing to doctors and patients, not as a matter of ethics, but as a matter of science. Such drugs would not be deemed effective psychiatric tools. To even launch the interesting policy questions related to memory dampening, we must assume the existence of a drug that is not highly addictive and that satisfies basic requirements of medical efficacy and safety.

Assuming that we identify such a drug, legitimate but manageable concerns may arise about overuse. If the drug is used principally for victims of motor vehicle accidents and violent crimes, the drug is not likely to be used often by the same people. Furthermore, many of those with good coping skills have never had a motor vehicle accident nor been the victim of a violent crime; thus, working through these experiences cannot be critical to the development of these skills. If, however, a person frequently dampens memories for comparatively insignificant events, then the Council's fear seems more plausible. Yet, virtually every medication runs a risk of overuse, and barring evidence that a medication is addictive, we usually manage that risk with our ordinary restrictions on prescription medications.

B. The Personal Identity Concern

Memory and identity are closely linked.[8] We feel a special connection to our past selves largely because we remember having our past experiences. For example, when I get out of bed in the morning, I consider myself the same person who went to sleep there the night before, in part, because I remember doing so. Those with extreme memory disorders, like advanced Alzheimer's disease, may lack such memories and may lose a stable sense of self[9] (Cf. Jaworska, 1999, 105). While memory is not the sole constituent of personal identity, it creates much of the psychological continuity that makes us aware of our continuing existence over time (Parfit, 1984, 208).

[8] On the relationship between memory and identity, see Parfit (1984, 208), Perry (1975) collecting essays. Persons 199–345 (1984); Personal Identity (John Perry ed., 1975) (collecting essays).

[9] Jaworska argues that we should respect the autonomy interests of those Alzheimer's patients who retain a capacity to value even after they have lost a coherent life narrative.

John Locke deemed memory and identity to be so closely connected that he claimed that we should not punish a person for a crime he no longer remembers committing[10] (Locke, 1975, 48). According to Locke, the person who cannot recall the crime is a different person than the perpetrator because the two lack an essential connection through memory, and the former should not be punished for the crime of the latter.

While courts have not accepted Locke's overstated conclusion, some courts have held that a genuine inability to recall participation in a crime (even if one had full mental faculties at the time of the crime) can help support a finding of incompetence to stand trial[11] (Wilson v. United States, 1968, 463–64; State v. McIntosh, 1988, *23–4). Rather than absolving a defendant of responsibility, however, courts considering a defendant's competence may simply deem it procedurally unfair to require a defendant to stand trial if his memory loss makes him unable to "assist properly in his defense."[12]

Nevertheless, a glimmer of the Lockean view may be found in various places in the law of insanity where we are disinclined to hold people responsible for actions taken by their psychologically discontinuous alter egos. For example, in a case of dissociative identity disorder (formerly known as multiple personality disorder), the court held that the defendant—more specifically, the dominant personality of the defendant—could not be held responsible for the crimes of an alternate personality when the dominant personality was unaware of those crimes at the time they were committed, even if the alternate personality was legally sane[13]

[10] Locke wrote:"[I]n the great day, wherein the secrets of all hearts shall be laid open, it may be reasonable to think, no one shall be made to answer for what he knows nothing of...") (Locke, 1975, 48). As Parfit writes, "Locke claimed that someone cannot have committed some crime unless he now remembers doing so" (Parfit, 1984, 208).

[11] In Wilson v. United States, the D.C. Circuit Court of appeals remanded to the district court for further fact-finding as to whether defendant's permanent retrograde amnesia for the events surrounding his alleged participation in a robbery interfered with his due process right to present an adequate defense. In State v. McIntosh, the Wisconsin Court of Appeals relied on *Wilson* to find that defendant did not receive a fair trial where there was a "real possibility that the amnesia may be 'locking in' exculpatory information".

[12] Such claims are usually unsuccessful, however, as the consensus view is that "loss of memory due to amnesia is not alone an adequate ground upon which to base a finding" of incompetence (LaFave, 2003, §8.01(a)).

[13] In United States v. Denny-Shaffer, the 10th Circuit Court of Appeals ordered retrial with an insanity instruction where the defendant presented sufficient evidence that her

(United States v. Denny-Shaffer, 1993, 1016). In addition, the Supreme Court has held it unconstitutional to execute an insane death row inmate, even if the inmate was sane at the time of the murder (Ford v. Wainwright, 1986, 399, 410). Our unwillingness to execute the insane may recognize, in some measure, the psychological discontinuity between an insane inmate and his sane counterpart who committed the crime[14] (Beyond Therapy, 2003, 211–212).

Recognizing the important connection between memory and identity, the Council suggests that memory dampening may weaken our sense of identity by dissociating memories of our lives from those lives as they were actually lived. Selectively altering our memories, according to the Council, can distort our identity, "subtly reshap[ing] who we are, at least to ourselves" (Id., 212). "[W]ith altered memories," the Council writes, "we might feel better about ourselves, but it is not clear that the better-feeling 'we' remains the same as before" (Id., 212).

Yet, even in the absence of memory dampeners, we cannot help but selectively remember. Memories have a natural rate of decay and are far more a synthesis and reconstruction of our past than a verbatim transcript[15] (Gazzaniga, 2005, 120–142). Just to process the tremendous amount of information that is presented to our senses, we must constantly abstract away from the "real" world. As the Council acknowledges, "individuals 'naturally' edit their memory of traumatic or significant events—both giving new meaning to the past in light of new experiences and in some cases distorting the past to make it more bearable" (Beyond Therapy, 2003, 217, n*). In fact, such selective reconstruction of our lives seems to be at the very heart of the creation of a coherent life story that Gilbert Meilaender advocates. Nevertheless, we do not worry whether our better-feeling naturally reconstructed selves remain the same as before.

It is, thus, not at all clear why we ought to revere the selective rewriting of our lives that we do without pharmaceuticals, yet be so skeptical of pharmaceutically-assisted rewriting. In fact, memory dampening

dominant personality was not in control during the offense and was not aware that another personality was controlling her physical actions.

[14] Such a view is far from explicit, however, in the Court's decision in *Ford v. Wainwright*, which notes that there is no "[u]nanimity of rationale" behind the rule. *Id.* at 408 (Ford v. Wainwright, 1986, 408).

[15] Gazzaniga *d*escribes myriad ways in which memory can fail to accurately represent past experience.

may strengthen our sense of identity. By preventing traumatic memories from consuming us, memory dampeners may allow us to pursue our own life projects, rather than those dictated by bad luck or past mistakes. As David Wasserman has noted, "pharmacologically-assisted authorship may strengthen rather than reduce narrative identity," by allowing one to "edit his autobiography, instead of having it altered only by the vagaries of neurobiology" (Wasserman, 2004, 14). Thus, to the extent that people voluntarily make changes to their mental processes, such changes may be perceived as bolstering self-identity. In fact, many people who begin taking antidepressants report feeling like themselves for the first time.[16] This suggests that some deliberate shifts in identity may not seem alienating at all.

C. Genuine Experiences Concern

The Council also worries that a memory-dampened life, chemically-altered as it is, is somehow a less genuine life[17] (Beyond Therapy, 2003, 213). According to the Council, "we might often be tempted to sacrifice the accuracy of our memories for the sake of easing our pain or expanding our control over our own psychic lives. But doing so means, ultimately, severing ourselves from reality and leaving our own identity behind" (Id., 233–34). This, according to the Council, "risks making us false, small, or capable of great illusions" (Id., 234). It also risks making us "capable of great decadence or great evil" (Id.)

Unfortunately, the Council never explains what makes a life genuine and truthful (nor how leading a life that is otherwise makes us capable of great evil). Is a memory-dampened life thought less genuine simply because some of the memories associated with it decay at a faster rate than they otherwise would have? Given that memories never precisely replicate our past experiences, do undampened memories provide a standard of

[16] Peter Kramer quotes a patient who, after starting the SSRI antidepressant Prozac, said she felt "as if I had been in a drugged state all those years and now I am clearheaded." Eight months after beginning Prozac, the same patient stopped the treatment and said she felt like "I am not myself" (Kramer, 1993, 18).

[17] The Council writes: "[B]y disconnecting our mood and memory from what we do and experience, the new drugs could jeopardize the fitness and truthfulness of how we live and what we feel..." (Beyond Therapy, 2003, 213).

genuineness? How important is it to lead a "genuine" life, whatever that means?[18]

In the case of those who are emotionally traumatized, traumatic memories can be overwhelming and trigger exaggerated responses to harmless stimuli. Such overreactions are themselves divorced from reality. Memory dampeners, by preventing people from being overtaken by trauma, may actually make them more genuine, more true to what they take their lives to be, than they would be if they were gripped by upsetting memories.

Furthermore, we are not always troubled by discrepancies between our perceptions and the world as it "genuinely" is. It has been widely observed that in many areas of life, people systematically overestimate their abilities and prospects relative to others (Brown, 1986, 353: Elga, 2005, 117).

Suppose there were a pill that eliminated these systematic self-enhancing biases. On the one hand, one could argue, those who took such pills would lead less genuine lives, as they would no longer understand the world in the way that they would in the absence of the pill. Their lives would be less genuine in the sense that they would lack a characteristically human understanding of the world. On the other hand, those who took the pill might lead more genuine lives, freed from the ruby-colored lenses that nature has given us.

No doubt, as a general life strategy, we do well to firmly commit ourselves to reality and to discovering the truth about ourselves and the world around us. Yet such a strategy might, at times, be worse for us all things considered; or, at least, the Council has not shown otherwise. To make the case that memory-dampening drugs will harmfully affect our lives, the Council must be much clearer about what makes a life genuine, how these drugs make lives less genuine, and why that should matter so much to us that we ought to suffer in distress to preserve our unadulterated memories.

[18] Robert Nozick's famous "experience machine" thought experiment is often taken to show that we want our lives to be closely connected to reality (Nozick, 1974, 42–5). For criticism, see Kolber (1994/95).

General Response to the Prudential Concerns

I have argued that many of the Council's concerns about memory dampening are founded on controversial premises. Not all of us will agree with the Council about how we ought to cope with emotional pain, what changes to our memory will damage our sense of self, and what makes one set of experiences more genuine and, therefore, better than another. While the concerns expressed by the Council and some of its members may prove insightful to likeminded patients or medical professionals, they are insufficiently developed to provide a basis for broad restrictions on memory dampening.

Each of the concerns presented reflects a bias for our natural, pharmaceutical-free mechanisms of responding to trauma. The Council implicitly or explicitly defended: (1) our natural ability to surmount difficult life obstacles, (2) our natural memories as the desirable basis for our sense of identity, and (3) our natural memories as more genuine and more desirable than those that are pharmaceutically altered.

There are two reasons commonly given for this preference for the status quo. The first is that we doubt that human intervention can improve upon our natural endowments when it comes to responding to difficult memories. We generally do an astonishingly good job of remembering what we need to remember and forgetting what we can do without. This delicate balance, some claim, has been optimized by evolution, such that "[w]hat looks to be an improvement could have hidden downsides" (Douglas et al., 2005, 28–9). The Council reflected a similar sentiment, stating that "[t]he human body and mind, highly complex and delicately balanced as a result of eons of gradual and exacting evolution, are almost certainly at risk from any ill-considered attempt at 'improvement'" (Beyond Therapy, 287). If millions of years of evolution have tended to select for brains that optimally balance retained and deleted memories, then we may find it very difficult indeed to improve upon our natural endowment.

However, while evolution has made the human brain remarkably adept at balancing our needs to retain and to forget memories, it surely did not lead each of us to an optimal balance. The conditions and needs of modern society differ substantially from those during most of our evolution. Furthermore, some people have better memories than others, and some are more susceptible to PTSD than others. It is very unlikely that we each have a brain optimized for our individual needs, especially

because our needs can change during the course of a lifetime. And as a general matter, pharmaceutical tinkering with memory is not always counterproductive, as witnessed by the millions of people being treated for Alzheimer's disease.

The Council is surely correct that it is difficult to improve upon our natural endowments, and for this reason, we are justifiably skeptical that any particular drug will constitute an improvement. It is certainly possible, however, to improve on our endowments and to suggest otherwise, rather than resolving the interesting policy issues raised by memory dampening, merely avoids or postpones them.

A second reason to defend our natural balance of retention and forgetting is that, with such a balance, we lead distinctively human lives and perhaps doing so is itself valuable. The Council expresses such a sentiment, acknowledging that its concerns with memory dampening and certain other new technologies "may have something to do with challenges to what is naturally human, what is humanly dignified, or to attitudes that show proper respect for what is naturally and dignifiedly human" (Beyond Therapy, 2003, 286–87).

A running theme in the Council's report is that memory dampening dehumanizes us by giving us too much control over our life experiences. According to the Council, "We are not free to decide everything that happens to us; some experiences, both great joys and terrible misfortunes, simply befall us. These experiences become part of who we are," part of our lives "as truthfully lived" (Id., 233). The Council stated:

Acknowledging the giftedness of life means recognizing that our talents and powers are not wholly our own doing, nor even fully ours, despite the efforts we expend to develop and to exercise them. It also means recognizing that not everything in the world is open to any use we may desire or devise. Such an appreciation of the giftedness of life would constrain the Promethean project and conduce to a much-needed humility (Id., 288).

Yet the Council acknowledges exactly what makes this view so unpersuasive: "The 'giftedness of nature' also includes smallpox and malaria, cancer and Alzheimer [sic] disease, decline and decay" (Id., 289). Surely we are not expected to accept everything in the world that is "given." The Council, however, offers no principled basis for deciding when to intervene, insisting that a "respectful attitude toward the 'given'" is "both necessary and desirable as a restraint," (Id.) even though "[r]espect for the 'giftedness' of things cannot tell us which gifts are to be accepted as

is, which are to be improved through use or training, which are to be housebroken through self-command or medication, and which opposed like the plague" (Id.). At some point, one must wonder whether this distinction actually serves to distinguish. Indeed, what is "given" may itself be dynamic, for our "given" nature might be to transcend our boundaries and constantly improve ourselves. At one point, the Council makes exactly that suggestion[19] (Id., 291.n*). It is, therefore, very difficult to understand why human enhancement should be restrained by our "given" nature.

The weaknesses of a status quo preference can be illustrated by imagining a world called Dearth, where the inhabitants are very much like us except that, on average, they are less likely than we are to suffer from traumatic memories. Perhaps Dearthlings are less emotionally aroused by traumatic experiences than humans typically are. One day, the government of Dearth establishes a commission that holds hearings on an emerging technology, called traumatic memory *enhancement*. Using memory-enhancing drugs, Dearthlings can make their traumatic memories more vivid, more persistent, and otherwise more like those of typical humans.[20] Ought Dearthlings enhance their responses to trauma to make them more like the responses of typical humans?

With limited facts, it is difficult to say. Without the drug, Dearthlings suffer less; on the other hand, they might, in some sense, experience a richer, more meaningful life with the drug. Most would agree, however, that a Dearthling should not be forced to take a drug that will create a significant risk that he will develop upsetting memories from a recent traumatic experience. Similarly, a human being with a significant risk of developing upsetting memories from a recent traumatic experience should be permitted to use memory-dampening drugs to prevent those memories from forming. The only difference between a Dearthling at risk from traumatic memory-enhancement and a human at risk from refraining from memory dampening is whether the risk comes from taking a pill or from not taking it. If the Dearthling is permitted to avoid a bad state of affairs

[19] *The Council writes:* "By his very nature, man is the animal constantly looking for ways to better his life through artful means and devices; man is the animal with what Rousseau called 'perfectibility.'" (Id., 291.n*).

[20] In our world, David Wasserman has observed that such affect-enhancing memory drugs could someday be used to punish criminals by forcing them to reflect more intensely on their criminal behavior (Wasserman, 2004, 14–15).

by not taking a pill, the human should be able to avoid that same bad state of affairs by taking one. Otherwise, the preference for the status quo begins to seem like an unprincipled taboo on pill taking.[21]

Some Council members might respond by saying that there is a very important difference between these two individuals—namely, one is a human and one is a Dearthling—and the human ought to deal with traumatic memories in characteristically human rather than Dearthling ways. In response, I must present the chilling news that there are Dearthlings among us, for some humans are quite resilient in the face of traumatic experiences while others are prone to PTSD. In fact, one sibling may be quite sensitive to trauma while another is the human equivalent of a Dearthling. Given the amount of variation among humans, appeals to human nature tell us little about whether we must respond to trauma like a Dearthling or like a statistically-typical human.

At this point, the Council might reiterate that our human nature may require each of us to accept his own personal "given" response to trauma whatever it might be. Yet the Council encourages us to change our "given" response to traumatic memories so long as we do so the old-fashioned way. It is difficult, however, to see why the method of change matters if it leads to the same end point. Perhaps the Council doubts that a pharmaceutical intervention will get us to the same end point as a non-pharmaceutical intervention. That, however, would merely serve as a critique of some particular imperfect form of memory dampening rather than a critique of memory dampening in general.

To recap, we considered two potential reasons to prefer our status quo methods of dealing with trauma over memory dampening. The first was that our status quo methods are simply the best methods possible. I argued that this is highly implausible as an empirical matter. The second was that our status quo methods are best because they are, in some sense, given to us as part of our human nature. I argued that there is little reason to prefer some state of affairs simply because it is the status quo, and it is virtually impossible to determine when human nature dictates that we leave some state of affairs alone and when it dictates that we do whatever we can to change it.

One reason the Council's concerns about memory dampening do not translate well into legal restrictions on memory dampening is that the

[21] Nick Bostrom and Toby Ord have offered a more generalizable version of the Dearthling thought experiment (Bostrom & Ord, 2006).

concerns discussed so far are not quintessentially ethical in nature. For example, the Council advises each of us to lead a genuine life because such a life is valuable to the person living it. To the extent that there is an ethical obligation to lead such a life, it is an obligation one has to one's self. Yet the notion of having an obligation to one's self is controversial. If A has an obligation to B, then, ordinarily, B can choose to release A from that obligation. Now suppose that A has an obligation to himself. Can A release himself from an obligation to himself? If so, it is not clear that A is obligated in any meaningful way[22] (Singer, 1959, 202–203).

While it may be possible to resurrect the notion of having an obligation to one's self, as a matter of legal regulation, we are more reluctant to restrict an individual's liberty to interfere with his own well-being than with another's. Thus, even if we were uniformly convinced of the strength of the three prudential concerns presented here, for the purposes of our inquiry, some additional argument would be needed to justify broad restrictions on memory dampening.[23]

Restrictions based on what I call the Council's prudential concerns are paternalistic in nature. Paternalistic limitations on our freedom may "serve[] the reflective values of the actor," or "impose[] values that the actor rejects" (Greenawalt, 1995, 718). The "soft" paternalism that is consistent with our own values is usually thought less invasive and more respectful of individual autonomy than the "hard" paternalism that imposes values foreign to the actor. To the extent that I have shown that the Council's concerns in the last Section are founded on controversial premises and do not reflect quintessentially ethical obligations, I have thereby suggested that interventions based on those concerns are of the more suspect variety.

The Council's prudential concerns provide little ground for doubting the ability of individual patients and their doctors to collectively decide when to use memory-dampening drugs, much as they would collectively decide to use any other physical or psychiatric medical treatment. The

[22] Singer writes: "[A] duty to oneself, then, would be a duty from which one could release oneself at will, and this is self-contradictory. A 'duty' from which one could release oneself at will is not, in any literal sense, a duty at all." Daniel Kading raises some objections to Singer's position (Kading, 1960).

[23] Such arguments typically suggest that individuals are incapable of making appropriate decisions, perhaps because the behavior at issue is addictive or people lack information needed to decide appropriately. I discuss the latter issue in more detail in the context of informed consent in Kolber (2006, 1586–89).

possibility remains, however, that the concerns described here could be reconfigured in terms of the effects that they would have on others. In that case, perhaps one could formulate non-paternalistic reasons for restrictions. Indeed, in the next two sections, I describe concerns of the Council that I take to be somewhat stronger because thy do identify more widespread societal effects of memory dampening.

A. *Obligations to Remember*

In the Supreme Court's most influential "right to die" case, *Cruzan v. Director, Missouri Department of Health*, Nancy Cruzan's family failed in its effort to obtain a court order to disconnect Nancy from the artificial feeding and hydration equipment that kept her alive in a persistent vegetative state (Cruzan v. Director, Missouri Department of Health, 1990). Writing in dissent, Justice John Paul Stevens emphasized that "[e]ach of us has an interest in the kind of memories that will survive [us] after death"[24] (Id., 356). Stevens dissented, in part, because Nancy Cruzan may have had "an interest in being remembered for how she lived rather than how she died," and he feared that "the damage done to those memories by the prolongation of her death is irreversible"[25] (Id., 353).

Stevens suggests that people have strong interests in being remembered in certain ways for who they are and what they do. If Stevens is correct, then we may have obligations to satisfy these interests by appropriately remembering people and events. Because memory dampeners may facilitate violations of these obligations, we arguably have grounds to heavily restrict their use.

I will suggest otherwise. First, I will describe the concerns of Council members that memory dampening may violate obligations to remember. Then, I will argue that even if we sometimes have ethical obligations to

[24] Stevens states in his dissent that the most famous declarations of Nathan Hale and Patrick Henry "bespeak a passion for life that forever preserves their own lives in the memories of their countrymen" (Cruzan v. Director, Missouri Department of Health, 1990, 344).

[25] Stevens also noted that her surviving family members have "an interest in having their memories of her filled predominantly with thoughts about her past vitality rather than her current condition" (Cruzan v. Director, Missouri Department of Health, 1990, 356).

others to remember, these obligations cannot, by themselves justify broad restrictions on memory dampening.

Council member Gilbert Meilaender suggests, albeit meekly, that we may have ethical obligations to remember those "treated unjustly... to remember the evil done them," which "might be necessary not just for the sake of the victims themselves but for our common humanity" (Meilaender, 2003, 22). While Meilaender merely "suspect[s] we can imagine circumstances in which we might think that there is indeed an obligation not to forget," (Id.) I think that prima facie obligations to remember are commonly recognized, stemming from interests in respect, honor, and justice (see generally Margalit, 2002).

In a world without memory dampening, it may seem that one cannot possibly be responsible for failing to remember, as we have limited control over our memories,[26] and voluntary control is often thought to be a prerequisite to responsibility.[27] On further examination, however, we clearly hold people responsible for failing to remember. For example, we blame those who forget an important birthday or anniversary, and we penalize those who forget to file a timely tax return. Some of the most tragic instances of failed memory occur when parents unintentionally cause the death of their young children by leaving them stranded in the backseats of automobiles on hot days, sometimes leading to criminal punishment.

The nature of our obligations to remember are radically underexplored, however, partly because, prior to the realistic possibility of memory dampening, there was relatively little one could do to consciously alter one's memories, and there was correspondingly little one could do to consciously fulfill or escape obligations to remember. One explanation for the observation that we do, in fact, hold people responsible for forgetting is that, in the examples given above—failing to commemorate a special occasion, to file tax returns, and to care for one's children—we are actually faulting people, not for their involuntary forgetfulness, but

[26] On whether and how we may be responsible for states of affairs beyond our control, see Statman ed. (1993). For an argument against the existence of genuine moral luck, see Kolber (1996) (unpublished senior thesis, Princeton University) (on file with author).

[27] . In criminal law, we require that every offense contain either a voluntary act or an omission to act when there is a duty to do so. This requirement prevents us from punishing people based merely on thoughts beyond their control (see, e.g., Proctor v. State, 1918: Packer, 1968, 73–79).

for some intentional failure at an earlier point in time[28] (Kelman, 1981, 593–94, 600–16). For example, perhaps the neglectful taxpayer intentionally decided not to record his filing deadline on his calendar or made other deliberate choices not to develop those attributes that would have prevented his memory failure. In a world with memory-altering drugs (either enhancing or dampening), we would have more opportunities to consciously alter our inclinations to remember or forget, leading perhaps to more responsibility for whatever memories we keep or discard.

Even if we can have obligations to remember, however, it is easy to overestimate the strength of these obligations. Perhaps the Council does so when it states that it may have been inappropriate for those with firsthand experiences of the Holocaust to dampen their traumatic memories:

Consider the case of a person who has suffered or witnessed atrocities that occasion unbearable memories: for example, those with firsthand experience of the Holocaust. The life of that individual might well be served by dulling such bitter memories, but such a humanitarian intervention, if widely practiced, would seem deeply troubling: Would the community as a whole—would the human race—be served by such a mass numbing of this terrible but indispensable memory? Do those who suffer evil have a duty to remember and bear witness, lest we all forget the very horrors that haunt them? (Beyond Therapy, 2003, 291).

There is something harsh about expecting trauma sufferers to bear the additional burden of carrying forward their traumatic memories for the benefit of others. The Council, recognizing this, goes on to soften its perspective somewhat, stating that "we cannot and should not force those who live through great trauma to endure its painful memory *for the benefit of the rest of us*" (Beyond Therapy, 2003, 230–231).

Yet, even for those who suffer from the most tragic of memories, the Council is ambivalent about the ethics of pharmaceutical dampening:

[A]s a community, there are certain events that we have an obligation to remember—an obligation that falls disproportionately, one might even say unfairly, on those who experience such events most directly. What kind of people would we be if we did not "want" to remember the Holocaust, if we sought to make the anguish it caused simply go away? And yet, what

[28] Kelman describes the "arational choice between narrow and broad time frames" in the criminal law (Kelman, 1981, 593–94, 600–16).

kind of people are we, especially those who face such horrors firsthand, that we can endure such awful memories? (Id., 231).

According to the Council, we are sometimes obligated to remember some person or set of events because doing so pays respect to that person or set of events. (Id.) For example, we may have obligations to remember great sacrifices that others make on our behalf, not because these memories will guide our actions, but rather because retaining the memory demonstrates a kind of respect or concern for these others.

The case for legally restricting memory dampening is particularly weak when it comes to such "homage" memories. What makes the retention of a traumatic homage memory significant is that the person who bears the traumatic memory has chosen to identify with it in some way. In fact, memory-dampening drugs, by giving us the opportunity to consciously choose to keep a memory intact, may actually facilitate our identification with it. On the other hand, if an individual retains an homage memory simply because he has no choice—because the tragic memory was indelibly imprinted into his brain by stress hormones or because memory dampening has been prohibited—the holding of the homage memory loses much of its significance. Such memories are not truly homages at all.[29]

Nevertheless, we can easily imagine situations where our obligations to remember are much stronger. For example, suppose a bystander is the only person to see the face of a serial rapist fleeing the home of his latest victim. Though the bystander may find the memory of the perpetrator's appearance quite upsetting, virtually everyone would agree that the bystander ought to retain the memory if doing so will ultimately help prosecute the perpetrator and protect potential future victims. Such a conclusion would be much less likely, however, if we consider instead the point of view, not of a mere bystander-witness, but of the traumatized victim who, let us now suppose, is the only one to see the perpetrator's face. In that case, we might still expect the victim to experience even this more intense trauma for, say, an hour until a police sketch artist can preserve the memory. It is much less clear, however, if the victim should be obligated to wait more than six hours to begin memory dampening in a world (like ours today, perhaps) where memory dampening would no longer be effective. At a minimum, however, it is clear that some people

[29] Admittedly, the analysis is complicated, however, by the inability to recover a previously dampened or erased memory.

have obligations to remember because there are strong societal interests in preserving certain memories.

Translating ethical obligations to remember into legal restrictions on memory dampening is no simple matter.[268] Memory dampening is a kind of medical treatment, and we do not ordinarily limit a person's access to medical resources simply to further police investigations.[30] On the other hand, memory dampening can destroy evidence, and we have plenty of laws prohibiting that (Kolber, 2006, 1579–92). It, therefore, seems plausible that some balancing of interests should occur when a person wishes to dampen memories that hold substantial instrumental value to society.

Yet even if we sometimes have ethical obligations to retain memories that ought sometimes be backed by legal sanctions, there is little reason to think that broad restrictions on memory dampening are needed. So, for example, an expansion of obstruction of justice statutes could further limit the use of memory-dampening drugs when patients have memories that are needed to protect societal interests in justice and safety. Alternatively, physicians could be required to make certain inquiries before prescribing memory-dampening drugs and could perhaps be obliged to notify authorities if a patient seeks to dampen or erase memories, where doing so may endanger someone else's life.[31] (Cf. Tarasoff v. Regents of Univ. of Cal., 1976, 340). Limited restrictions like these derive from concerns about memory dampening that, unlike those previously discussed, are based on ethical obligations we have to others and do not rely on much disputed conceptions of human nature or controversial preferences for what is deemed natural.

B. *Coarsening to Horror*

The Council also expressed concern that memory dampening will coarsen our reactions to horror and tragedy. If we see the world from

[30] According to psychiatrist Roger Pitman, if a crime victim has severe physical pain requiring the administration of morphine, we do not restrict it even though morphine can interfere with the victim's memory (Dupree, 2004, 9–10) (stating a claim made by Pitman).

[31] The Court in Tarasoff stated: "When a therapist determines, or pursuant to the standards of his profession should determine, that his patient presents a serious danger of violence to another, he incurs an obligation to use reasonable care to protect the intended victim against such danger" (Tarasoff v. Regents of Univ. of Cal., 1976, 340).

a chemically-softened, affect-dulled perspective, we may grow inured to trauma and its associated distress, "making shameful acts seem less shameful, or terrible acts less terrible, than they really are" (Beyond Therapy, 2003, 228).

As an example, the Council describes a hypothetical witness to a murder who dampens his memory and eventually perceives the crime as less severe than he would have without pharmaceutical assistance:

Thanks to [a memory-dampening] drug, [the memory of the murder] gets encoded as a garden-variety, emotionally neutral experience. But in manipulating his memory in this way, he risks coming to think about the murder as more tolerable than it really is, as an event that should not sting those who witness it. For our opinions about the meaning of our experiences are shaped partly by the feelings evoked when we remember them. If, psychologically, the murder is transformed into an event our witness can recall without pain—or without any particular emotion—perhaps its moral significance will also fade from consciousness. (Id.)

One concern suggested by this example is that memory dampening will make it more difficult to accurately convey evidence and other kinds of information to each other. According to the Council, the person described above "would in a sense have ceased to be a genuine witness of the murder," and when later asked about the event, "he might say, 'Yes, I was there. But it wasn't so terrible.'" Though the Council asks whether this person was a "genuine witness of the murder," the implicit reference to the natural is more appropriate here than it was with respect to the Council's prudential concerns. If this person were to appear before a jury, his description of the events surrounding the murder will be interpreted by listeners against a backdrop of *natural* linguistic conventions that help connect a speaker's affect to the events he describes. Similarly, in the military context, some worry that memory-dampened soldiers will come back from battle with unnatural affect-reduced descriptions of their experiences, making combat seem less horrific than it would otherwise[32]

[32] The Council writes: "Even if they existed, and even in times of great peril, we might resist drugs that eliminate completely the fear or inhibition of our soldiers, turning them into 'killing machines' (or 'dying machines'), without trembling or remorse" (Beyond Therapy, 2003, 154–5); Wasserman discusses how our willingness to engage in actions, like combat, may be affected by expectations that one can engage in "emotional amnesia" (Wasserman, 2004, 17–18).

(Id., 154–155). Against a standard backdrop of communicative conventions, we would understandably be puzzled by a flat, lifeless description of human tragedy.

Indeed, if memory dampening has a tendency to alter our perceptions and our understanding of events in the world, then, as the Council's example suggests, it may affect more than just the ways we communicate. A deeper concern is that memory dampening will coarsen our feelings and make us less willing to respond to tragic situations. Along these lines, one can imagine a would-be-famous civil rights leader in the 1960s who, in order to combat the memory of childhood injustices, would have gone on to revolutionize our social institutions but, due to his use of memory dampeners, instead pursues a more mundane life plan and is never so much as mentioned in the history books.

Not only might our coarsened emotions disincline us to take positive action, it has been suggested that memory dampeners could reduce our inhibitions to engage in socially destructive action. Thus, violent criminals could use memory dampeners to ease feelings of guilt, making them more likely to recidivate (Id., 224). In addition, it has been claimed, memory-dampened soldiers, freed from burdens of conscience, may be more effective at killing (Id., 154). Council member Paul McHugh asks, "If soldiers did something that ended up with children getting killed, do you want to give them beta blockers so that they can do it again?" (Mundell, 2005). The question is lacking in some important details but, more importantly, these examples suggest that fear and remorse or expectations of fear and remorse inhibit certain antisocial behaviors and that memory dampening may interfere with this desirable control mechanism. While this concern is far from universal, it may warrant studying whether any proposed memory-dampening agent actually has such effects.

Even if there is some empirical basis for these concerns, however, it is important not to overstate their importance. For even if memory dampening does make some trauma *seem* less horrible, this happens in part because memory dampening can *actually make* trauma less horrible. That is, much of what is bad about traumatic experience is that it traumatizes those who survive it. So, for example, to the extent that we can ease the traumatic memories of those involved in military conflict (without leading to a significant increase in total military conflict), then memory dampening makes combat somewhat better than it would otherwise be. Furthermore, when soldiers are injured in battle, we heal their physical wounds using advanced technology, even if doing so makes war seem less

horrible; so it is unclear why their emotional wounds should be treated any differently.

While the coarsening concern is far from overwhelming, it at least shows how the widespread use of memory dampeners can potentially affect the lives of those who do not use them. Nevertheless, this concern cannot alone justify broad restrictions on memory dampening, at least not if such restrictions are consistent with our typical policies of drug regulation. For example, people consume alcohol to relieve themselves of the pain of traumatic events. Whether or not this leads to some general inurement to tragedy in society (which seems doubtful), most would not address the problem with a comprehensive prohibition of alcohol. Similarly, even if antidepressants are used for relief from the pain of traumatic experiences, we would not generally prohibit them for fear that society will be less compassionate. Likewise, the world may benefit from the inspired artwork of a Vincent van Gogh, yet few would deprive a tortured soul of antidepressants in order to foster artistic creation.

We likely permit the use of such drugs, despite whatever minimal effects they may have on our reactions to tragedy, because their costs are outweighed by other benefits. So even if data someday support the Council's concern that memory-dampening drugs can have negative effects on soldiers' battlefield reactions or on societal reactions more generally, we can surely tailor limits on their use in particular contexts. And if the testimony of memory-dampened witnesses has a different emotional tone than that of ordinary witnesses, experts can explain the differences to jurors.

While memory dampening has its drawbacks, such may be the price we pay in order to heal intense emotional suffering. In some contexts, there may be steps that ought to be taken to preserve valuable factual or emotional information contained in a memory, even when we must delay or otherwise impose limits on access to memory dampening. None of these concerns, however, even if they find empirical support, are strong enough to justify broad-brushed restrictions on memory dampening.

Freedom of Memory

I have argued that concerns over memory dampening are insufficient to justify broad restrictions on the therapy. Furthermore, having the choice to dampen memories supports our interests in self-determination and in avoiding mental illness and upset, and, as noted, enables us to identify more strongly with memories that we decide to keep. Given the potential

that memory dampening has to ease the pain of so many people, and that, at a minimum, memory dampening ought not be entirely prohibited, it follows that we should have some right to dampen our memories.

Such a right can be thought of as just a piece of a much larger, as-yet-poorly-defined bundle of rights to control what happens to our memories. For example, we may have some right to be free from forced memory dampening were the government to try to make us forget a trade secret or a voyeuristic memory.[33] Neuroscientists are also hard at work developing drugs to enhance memory retention to treat Alzheimer's disease, as well as less severe age-related memory problems (see McGaugh (2003), 68–79). In the context of memory enhancement, we might have rights to enhance the emotions we attach to our memories (perhaps to increase affect attached to positive memories) as well as rights to enhance the factual content of the memories we store (to avert memory disorders or, more controversially, to perform better in school). We may also have rights to prevent forced enhancement of the factual richness of our memories by those who would make us better spies, soldiers, students, or employees or to prevent forced enhancement of our memory-related affect by those who think doing so would make us more responsive to conscience and less likely to violate social norms (see Wasserman, 2004).[34]

In addition to enhancing and dampening memories, we may have rights to keep memories private. Such a right is already circumscribed by the government's subpoena power—the power to demand that we answer (or at least try to answer) certain questions, under oath, about the content of our memories (see Slobogin, 2005). Advances in neuroscience, however, have led to the creation of neuroimaging technologies, like functional magnetic resonance imaging ("fMRI"), that will make questions about the privacy of memory even more important. For example, neuroscientists are trying to develop brain imaging techniques to determine if

[33] Such autonomy interests are frequently noted in important constitutional law cases. See, e.g., Cruzan v. Director, Mo. Dep't of Health, 1990, 278 ("The principle that a competent person has a constitutionally protected liberty interest in refusing unwanted medical treatment may be inferred from our prior decisions."); Washington v. Harper, 1990, 229 (1990) ("The forcible injection of medication into a nonconsenting person's body represents a substantial interference with that person's liberty."); Riggins v. Nevada, 1992, 134.

[34] Wasserman notes: "Some might suggest that for particularly heinous crimes, enhancement of guilt-ridden memory could serve as a form of punishment, a kind of forced internalization".

an experimental subject recognizes a person in a photograph (i.e., has a memory of that person) using brain imaging alone, without relying on the subject's own (possibly deceptive) report (Thompson, 2005, 1602; see generally Keckler, 2006; Wade, 2005, A19). The emergence of such technologies led one group of researchers to make the controversial claim that "[f]or the first time, using modern neuroscience techniques, a third party can, in principle, bypass the peripheral nervous system–the usual way in which we communicate–and gain direct access to the seat of a person's thoughts, feelings, intention, or knowledge" (Wolpe, 2005, 39; Kamitani & Tong, 2005, 679).[35]

Related to the right to keep memories private is the right to make memories public. One such "publicity right," if it may be called such, concerns the means by which we can voluntarily demonstrate the content of our memories in court. In Harrington v. State, convicted murderer Terry Harrington[36] sought to offer unconventional evidence of his memories in the form of so-called brain fingerprinting, a kind of electroencephalography[37] (Harrington v. State, 515). The brain fingerprinting results purportedly showed that Harrington did not have memories of the crime scene that the actual perpetrator would have had and that Harrington did have memories that supported his alibi (Harrington v. State, 516, n.6). The Iowa District Court, ruling for the first time on the admissibility of such evidence, found some of the brain fingerprinting results to be admissible, but, for a variety of reasons, dismissed Harrington's petition for a new trial (Harrington v. State, 216). When Harrington appealed to the Supreme Court of Iowa, his conviction was vacated on due process grounds unrelated to his evidentiary claim, and the court never ruled on the admissibility of his brain fingerprinting evidence

[35] The reason the claim in the text is controversial is that it is not clear that one can ever, even in principle, have direct access to these features of another's mind.

[36] Harrington was convicted of first degree murder in the late 1970s, State v. Harrington, and was then sentenced to life imprisonment without possibility of parole.

[37] Electroencephalograms measure brain signals known as "event related potentials" that can be detected "on the scalp 300–500 ms after the subject is exposed to a stimulus" (Wolpe, 2005, 41). Farwell's brain fingerprinting technique is supposed to use electroencephalography to determine whether a subject is exposed to a familiar or unfamiliar stimulus by measuring event related potentials that are "associated with novelty and salience of incoming stimuli" (Id).

(Harrington v. States, 512, 516; Slaughter v. State, 1054).[38] In the lower court, however, Harrington did win a narrow right to admit unconventional evidence related to his memory, setting the stage for future battles in this arena.

Before these new neuroscience imaging techniques and pharmaceuticals appeared on the horizon (distant as it may still be), it made little sense to speak of a "freedom of memory." There was simply too little we could do as human beings to affect our own memories to warrant clarifying our rights. In light of these developing technologies, however, we can begin to envision a bundle of rights associated with memory, including perhaps: rights to dampen memories; rights to enhance memories or memory-retention skills; rights to keep memories private (or to allow us to publicize them in court); and rights to be free of certain invasions of our memories by forced enhancement, forced dampening, or even the secret implantation of false memories.[39]

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[38] In Slaughter, the Oklahoma Court of Criminal Appeals found that the issue of brain fingerprinting "could have been previously raised in the direct appeal" and that there was "insufficient evidence to support a conclusion that brain fingerprinting, based solely upon the MERMER effect, would survive a Daubert analysis".

[39] Elizabeth Loftus and her research team have implanted so-called false memories into experimental subjects under a variety of conditions (see Loftus, 2003-A; Loftus 2003-B).

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