

## The morality of experience machines for palliative and end-of-life care

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### Introduction

Experience machines, popularized in print by Robert Nozick and on the screen by the Wachowskis' film *The Matrix*, provide highly or perfectly realistic experiences that are more pleasant and less painful than those generated in real life.<sup>1</sup> The recent surge in virtual reality and neuro-prosthetic technologies is making the creation of real-world experience machines seem inevitable and perhaps imminent.<sup>2</sup> Given the likelihood of the near-future availability of such machines, it behooves ethicists to consider the moral status of their potential uses. In this chapter, we investigate the use of experience machines in palliative and end-of-life care situations. We pair up various kinds of experience machines with patients in a range of conditions, to illuminate the moral problems and benefits of using experience machines in this way. We argue that the use of Nozickian experience machines to treat patients in most conditions would be morally problematic, most notably for the negative effects on patients' characters and real-world relationships. Informed by this initial moral analysis, we describe an experience machine that is more closely related to a virtual reality game, and argue that it can avoid the moral problems encountered by Nozickian experience machines. In fact, we argue that this new kind of experience machine could improve some patients' characters and relationships with real-world people. We conclude that some kinds of experience machines could benefit many patients, especially those in extreme pain and those not in the position to meaningfully interact with their loved ones in reality. We also note that certain kinds of experience machines could be useful for religious people, for whom the range of palliative and end-of-life care options is often thought to be relatively narrow.

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<sup>1</sup> For recent examples of articles discussing the experience machine from one of us, see Weijers, Dan (2014). Nozick's Experience Machine is Dead, Long Live the Experience Machine!, *Philosophical Psychology*, 27(4): 513-535; Weijers, Dan & Schouten, Vanessa (2013). An assessment of recent responses to the experience machine objection to hedonism, *Journal of Value Inquiry*, 47(4), 461-482; Weijers, Dan (2013). Intuitive Biases in Judgements about Thought Experiments: The Experience Machine Revisited, *Philosophical Writings*, 41(1): 17-31; Weijers, Dan (2012). We Can Test the Experience Machine, *Ethical Perspectives*, 19(2), pp. 261-268; Weijers, Dan (2011). Reality Doesn't Really Matter, in *Inception and Philosophy*, Edited by D. Kyle Johnson, Wiley-Blackwell, pp. 92-107; Weijers, Dan (2011). The Experience Machine Objection to Hedonism, in *Just the Arguments*, Edited by Michael Bruce & Steven Barbone, Wiley-Blackwell, pp. 229-231.

<sup>2</sup> Barilan, Y. Michael. "Nozick's Experience Machine and palliative care: revisiting hedonism," *Med Health Care and Philos* (2009) 12:399-407, DOI 10.1007/s11019-009-9205-z; Coeckelbergh, Mark. "Health Care, Capabilities, and AI Assistive Technologies," *Ethic Theory Moral Prac* (2010) 13:181-190, DOI 10.1007/s10677-009-9186-2. Schermer, Maartje. "Health, Happiness and Human Enhancement—Dealing with Unexpected Effects of Deep Brain Stimulation." *Neuroethics* (2013), DOI: 10.1007/s12152-011-9097-5.

### Some palliative and end-of-life care situations

The range of palliative care and end-of-life contexts is broad. Although many factors could be weighed in moral assessments related to end-of-life and palliative care contexts, we focus on the pain experienced by many patients in these situations, including its intensity, stubbornness in the face of pain relief, and the potential for its causes to be eliminated. These can be divided into a spectrum of cases along the following lines:

The pain is less (i1) or more (i10) *intense*

The pain is less (s1) or more (s10) *stubborn*

The *cause* of the pain is less (c1) or more (c10) likely to be irreversible

Pain that is the least intense, least stubborn, and most likely to have its underlying cause be cured would be labelled: i1s1c1

Pain that is the most intense, most stubborn, and least likely to have its underlying cause be cured would be labelled: i10s10c10

And so on, for all 1000 (10 x 10 x 10) types of *palliative* case

In end-of-life care, there is also a spectrum of cases in which death is more or less proximate. By “proximate” here we mean someone is more or less *near* to the end of her life. Cases on this spectrum will be designated as follows:

The prognosis of death is less (p1) or more (p10) *proximate*

The prognosis of death, as well as the other factors, may be unknown. In these cases the variables will be designated a “?” instead of a numerical value

Pain that is moderately intense, moderately stubborn, moderately likely to have its underlying cause cured, and comes with a prognosis of imminent death would be labelled: i5s5c5p10

Pain that is of unknown intensity and stubbornness, moderately likely to have its underlying cause be cured, and comes with no prognosis of early death would be labelled: i?s?c5p1

And so on, for all 10,000 (10 x 10 x 10 x 10) types of *palliative end-of life* case

These distinctions are important because whether various actions should be considered moral or in the best interests of the patient seems to crucially depend on the status of the patient in regards to these factors. In real life cases of palliative and end-of-life care, other factors would also be important. In this chapter, we address some of these other factors, but concentrate on the intensity, stubbornness, and reversibility of the pain alongside the prognosis for proximity of death.

### Initial moral issues with experience machines

For some, the notion of providing experience machines for the chronically ill brings to mind Chapter Fourteen of Aldous Huxley's *Brave New World*,<sup>3</sup> in which Linda, the mother of the so-called "Savage" John, is expiring in a euphoric and technologically mediated stupor while her son tries to mourn, in what we recognize as a typical human way, at her bedside:

It was a large room bright with sunshine and yellow paint, and containing twenty beds, all occupied. Linda was dying in company—in company and with all the modern conveniences. The air was continuously alive with gay synthetic melodies. At the foot of every bed, confronting its moribund occupant, was a television box. Television was left on, a running tap, from morning till night. Every quarter of an hour the prevailing perfume of the room was automatically changed. "We try," explained the nurse, who had taken charge of the Savage at the door, "we try to create a thoroughly pleasant atmosphere here—something between a first-class hotel and a feely-palace, if you take my meaning."

When John sees his mother, he shudders:

Linda was... watching the Semi-finals of the South American Riemann-Surface Tennis Championship... [she] looked on, vaguely and uncomprehendingly smiling. Her pale, bloated face wore an expression of imbecile happiness. Every now and then her eyelids closed, and for a few seconds she seemed to be dozing. Then with a little start she would wake up again—wake up to the aquarium antics of the Tennis Champions, to the Super-Vox-Wurlitzeriana rendering of "Hug me till you drug me, honey," to the warm draught of verbena that came blowing through the ventilator above her head—would wake to these things, or rather to a dream of which these things, transformed and embellished by the soma in her blood, were the marvellous constituents, and smile once more her broken and discoloured smile of infantile contentment.

When John tries to grieve by recalling pleasant memories from his early childhood, when Linda mothered him, Linda is too absorbed in the machines and drugs to even recognize John, and speaks the name of an abusive lover instead.:

"Popé!" she murmured, and closed her eyes. "Oh, I do so like it, I do ... " She sighed and let herself sink back into the pillows.

"But, Linda!" The Savage spoke imploringly, "Don't you know me?" He had tried so hard, had done his very best; why wouldn't she allow him to forget? He squeezed her limp hand almost with violence, as though he would force her to come back from this dream of ignoble pleasures, from these base and hateful memories—back into the present, back into reality: the appalling present, the awful reality—but sublime, but significant, but desperately important precisely because of the imminence of that which made them so fearful. "Don't you know me, Linda?"

This fictional case arguably presents us with an example of how an experience machine

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<sup>3</sup> Huxley, A. (1932). *Brave new world*. London, UK: Chatto & Windus.

might get things wrong, and might obscure or even squeeze out those eudaimonic<sup>4</sup> elements of human flourishing and human relationships that we rightly value in the process of pursuing what the nurse calls “a thoroughly pleasant atmosphere.” Although pleasant for Linda, the whole set up largely cut John off from Linda, thereby causing him further grief at his inability to connect with her in her final stages of life.

On the face of it, the moral costs of such a scene outweigh its moral benefits; pleasure for the patient at the cost of pain to her surviving relative, not to mention the potential damage to her character and their relationship. For this reason, it is initially questionable whether we should encourage the use of experience machines in the palliative or end-of-life care settings. New technologies that move pain from one person to another, rather than mitigate it, face a *prima facie* moral issue of fairness. New technologies that interfere with patients’ abilities to interact meaningfully in the real world also raise the moral issue of damaging relationships and preventing the patients from flourishing. As we will argue, some kinds of experience machines will not spread the pain around in this way or impede human flourishing and relationships; indeed, some experience machines will promote these values while mitigating patients’ pain.

### Nozickian experience machines

Nozick’s 1974 description in his *Anarchy, State, and Utopia*<sup>5</sup> was not the first presentation of an experience machine, but it is the most influential.<sup>6</sup> Nozick’s experience machine is designed by superduper neuropsychologists to provide any experience you desire alongside a smorgasbord of the best experiences researchers could devise. While connected to Nozick’s experience machine, patients would not realize that their experiences are machine-generated; they would experience a life that seems like a continuation of their existing life, despite being varied and blissful in ways that might seem incredible to an outside observer. Nozick also stresses the customizability of his experience machines; patients are unplugged every couple of years so they can queue up a new menu of pleasures for their next stint in the amazing machine.

In the context of palliative and end of life care, using a Nozickian experience machine is similar to total sedation; patients would only have a very small amount of time to be consciously present in reality. On the other hand, a Nozickian experience machine could presumably offer a much longer and more vivid experiential life than steadily increasing doses of opioids would provide. According to Barilan,<sup>7</sup> only the minority of patients in palliative and end of life care opt for total sedation. Presumably, the majority of these patients value their interactions with the real world enough to endure various pains and

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<sup>4</sup> References to eudaimonic value in this chapter refer to the various ways in which an intelligent agential and highly social animal can flourish, i.e., develop and exercise its capacities in ways that are beneficial to itself. Important examples of eudaimonic value for humans would include working towards subjectively meaningful goals and developing meaningful relationships.

<sup>5</sup> Nozick, R. (1974). *Anarchy, State, and Utopia*. Oxford: Blackwell, 1991.

<sup>6</sup> Weijers, Dan & Schouten, Vanessa (2013). An assessment of recent responses to the experience machine objection to hedonism, *Journal of Value Inquiry*, 47(4), 461-482.

<sup>7</sup> Y. Michael Barilan, “Nozick’s Experience Machine and palliative care: revisiting hedonism,” *Med Health Care and Philos* (2009) 12:399–407, DOI 10.1007/s11019-009-9205-z.

indignities. The minority who do ask for total sedation or euthanasia, according to Barilan,<sup>8</sup> are suffering from total pain—their existence is so excruciating to them that they cannot function in a normal human way; they cannot achieve any meaningful interactions with the real world and its real inhabitants (i10s10c?p?). Most patients in total pain are experiencing a life of negative hedonic<sup>9</sup> and, at best, neutral eudaimonic value; they are in pain and have no capacity to pursue meaningful real-world ends, such as developing their character and relationships. As it stands, their choice is between this negative hedonic and neutral eudaimonic life and sedation to the point of unconsciousness or death, which are often thought to be states of neutral hedonic and eudaimonic value. Sad to say, the latter option—retreating from life—currently seems to be the prudential choice in situations of irreversible total pain (i10s10c10p?).

But now consider a future in which Nozick’s experience machine is an option. Assuming the machine works as Nozick described it, and is available to patients with a variety of painful and debilitating conditions, the main choice for most patients with irreversible total pain (i10s10c10p?) would be between total sedation and an experience machine. Total sedation presumably offers a hedonically and eudaimonically neutral life (or death), and the experience machine offers a hedonically excellent life with questionable eudaimonic value. Patients on an experience machine would, by stipulation, experience a great deal of pleasure and little to no pain, but it is unclear how meaningful their experiences would be. We discuss this important issue of meaning below, but for now it seems clear that as long as an experience machine life does not have negative eudaimonic value (less eudaimonic value than total sedation), that patients in irreversible total pain may prudentially choose an experience machine life over total sedation. Whether an experience machine life would cause anxiety or peace in the patient’s friends and family may also factor into the patient’s choice, another important issue that we discuss below.

The overall value of Nozickian experience machines, and whether they should be used, depends heavily on the eudaimonic value of a life connected to such a machine. A major worry is that, despite all their pleasantness, experiences on the machine are worthless because they are fake. Sure they feel good, the objection goes, but they don’t add value to life because they are not genuine or authentic in the right kind of way. In Nozick’s words:<sup>10</sup> “WE ARE NOT merely empty buckets to be stuffed with happiness or pleasure; the self’s nature and character matter too, even matter more.” And: “What we want and value is an actual connection with reality. ... To focus on external reality... is valuable *in itself*...”.<sup>11</sup> Nozick takes his experience machine thought experiment to demonstrate that people do not value fake happiness very highly. That most of us would not choose an experience machine life over our less pleasurable but more veridical real life supposedly reveals that more than the experience of happiness must matter to us. Moreover, Nozick argues that we are right to value “real” experiences much more than fake ones because they carry eudaimonic value—they are meaningful.

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<sup>8</sup> Y. Michael Barilan, “Nozick’s Experience Machine and palliative care: revisiting hedonism,” *Med Health Care and Philos* (2009) 12:399–407, DOI 10.1007/s11019-009-9205-z.

<sup>9</sup> We take hedonic value to refer to pleasure, and hedonic disvalue to refer to pain, where both pleasure and pain are broadly defined to include mental and physical pleasures and pains.

<sup>10</sup> Nozick, Robert (1989). *The Examined Life: Philosophical Meditations*, Simon and Schuster, p. 128.

<sup>11</sup> Nozick, Robert (1989). *The Examined Life: Philosophical Meditations*, Simon and Schuster, p. 106 (emphasis in original).

Despite arguing against the supreme value of happiness and pleasure, Nozick admits that they carry some value,<sup>12</sup> presumably even when they are machine-generated. This view fits well with Barilan's claim that a life connected to an experience machine would sometimes be chosen over total pain or total sedation (which presumably have negative and neutral prudential value, respectively).<sup>13</sup> The question remains whether, in addition to positive hedonic value, a life on an experience machine has negative, neutral, or positive eudaimonic value. Answering this question is important because it will enable us to better investigate the value of experience machines in cases other than irreversible total pain. In order to investigate this issue, it behooves us to further reflect upon the biannual breaks, during which patients would disconnect from the experience machine and plan their next two years of machine-generated bliss.

### Nozickian experience machines for palliative and end of life care patients

In the case of irreversible total pain (i10s10c10p?), patients would likely not accept the biannual breaks. If awakened from their blissful machine lives, patients with irreversible total pain would probably experience so much pain that they could not competently decide which experiences to choose for the next two years. To avoid the excruciating pain, the patients will likely be sedated, but this would also make it difficult for them to focus enough to plan their next two years. Either way, then, patients would find it very difficult to make good choices about their future; with sedation their cognitive capacities would be too dull and without sedation they would be too distracted by the pain. In order to avoid a similar dilemma, anyone opting for an experience machine life before their irreversible very strong pain (i8s8c10p?) became irreversible total pain (i10s10c10p?) might also choose not to take biannual breaks; the total (or near total) pain that they would feel upon disconnecting from the machine might scare them into declining the option to unplug for any reason. In similar cases, patients with irreversible strong stubborn pain (i7s7c10p?) might be more inclined to choose to be connected to an experience machine under Nozick's biannual break terms because the less-intense pain might be perceived to be manageable for the short period of time it would take to program the next set of experiences. But what might unplugging be like for these patients?

As the after party at the World Masters Games winds down, Trisha swells with pride while reflecting on her gold medal in the 100-meter dash. The very next moment, Trisha awakes in an experience machine control center. It's time, she's told, to choose experiences for her next two years. Groggy and in considerable pain, Trisha is partially sedated. Trisha might inquire after her real-world friends and family. These loved ones may even be in the control center with her, keen to reconnect with her, and perhaps advise her on her future experiences. Trisha was likely interacting with virtual versions of her loved ones while on the machine. And, given the nature of the experience machine, Trisha's real loved ones might not be quite as pleasing as their digital representatives. On the other hand, they are real people, and interacting with them would likely be more meaningful for Trisha.

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<sup>12</sup> Nozick, Robert (1989). *The Examined Life: Philosophical Meditations*, Simon and Schuster.

<sup>13</sup> Y. Michael Barilan, "Nozick's Experience Machine and palliative care: revisiting hedonism," *Med Health Care and Philos* (2009) 12:399–407, DOI 10.1007/s11019-009-9205-z.

Would Trisha be repulsed by the warts-‘n’-all reality of her loved ones? Or would she perhaps be repulsed by herself for abandoning them for a more pleasurable, but ultimately meaningless machine life? Either way, only total sedation or the experience machine would provide an escape from this unpleasant situation and the strong pain dogging Trisha’s every moment. Perhaps Trisha would ask for a moment alone with the machine technician and beg for immediate and permanent return to her machine-generated life of bliss. She understands now that it was all meaningless fakery, but at the same time she recalls how meaningful it seemed while she was experiencing it. For those who find it plausible, the idea of Trisha abandoning reality with such urgency is disquieting indeed. Are we such weak creatures that, once we had tasted what the experience machine has to offer, we would recoil from irreversible strong stubborn pain with such alacrity that our loved ones, our real-world accomplishments and goals, and all that was supposed to be meaningful, would be exposed as less important than avoiding such pain? What would all this mean for our true characters, our current lives, our future plans, and the true value of eudaimonic ends?

It might be objected that Trisha is a morally bad person for abandoning reality and its real inhabitants. But why should Trisha feel bound by a morality that values the difference between her strong pain and pleasure so little? There seems to be a line separating cases of ‘too much pain for the sake of others’ from ‘cases of permissible pain for the sake of others’, and Trisha may well be over that line. Assuming that Trisha is enduring strong and stubborn pain (i7s7), and has received a prognosis of irreversible total pain for the future (i10s10c10p?), her moral responsibility to others seems fairly insignificant in comparison. Trisha could forgo being connected to an experience machine, and be there for her loved ones for a short time. But she would soon be in state of irreversible total pain, and incapable of meaningful interactions with others. Perhaps it is best for Trisha to tie up her loose ends and say her goodbyes while still capable of meaningful interaction before permanently checking out into her experience machine life. Consider a potential alternative of waiting until her waking moments became unbearable, saying goodbye (perhaps again) through a haze of sedatives, and then connecting to an experience machine. The former option seems to provide more dignity and less pain to Trisha without making much difference to her loved ones. Trisha’s friends and family would get to see a bit more of Trisha on the latter option, but their interactions would be marred by Trisha’s diminished cognitive capacities and elevated level of pain.

Instead of being labelled as morally bad, Trisha might instead be thought of as an unfortunate victim of addiction. Through her two years of bliss, Trisha seems to have become addicted to pleasant experiences, so much so that she would forgo real responsibilities and the chance for meaningful experiences shared with real people. Those with loved ones addicted to drugs, gambling, or pornography might be able to relate to the sense of betrayal that comes with a trusted person choosing a meaningless buzz over their real responsibilities and chances for meaningful interactions with others. But choosing to connect to an experience machine is not quite the same as choosing to risk, and ultimately gift, your family’s life savings to the local casino. Partaking in pleasurable activities is only viewed as an addiction when it begins to damage other aspects of the person’s life. If the behavior is not damaging, then it may be considered a reasonable indulgence, or perhaps even a harmless hobby. Given Trisha’s current strong pain (i7s7), and her miserable prognosis (i10s10c10p?), there is very little of value in her life that is left to damage. Saying

her goodbyes and connecting to an experience machine before total pain sets in seems at worse a reasonable indulgence, since Trisha would be doing little to no damage to what's left of her life.

Going back to Trisha's decision point in the experience machine control room (i7s7 with a prognosis of i10s10c10p?), Trisha might not choose to re-connect to the machine. Instead, wracked by guilt, Trisha might vow to battle through the pain to spend time with her loved ones, complete her beanie baby collection, or *really* finish writing her memoirs. She might come to the conclusion that life is a gift, one that should not be wasted on empty pleasures, but rather dedicated to the pursuit of meaningful achievements and relationships. This repentant version of Trisha rues the opportunity cost of connecting to the machine. She now realizes the machine-generated pleasures have little or no value, and that the eudaimonic value available in her real life could exceed the disvalue of the pain she will experience. We agree that the vast majority of movie heroes would take this option, but we disagree on how many real-life mortals would do the same. Either way, this repentant version of Trisha seems to attribute little or no value to her machine-generated pleasures. It's not necessarily that she thinks them disvaluable; she just sees the eudaimonic value of a real life as outstripping whatever hedonic value a life on the experience machine has.

Regardless of what any actual "Trishas" (i7s7 with a prognosis of i10s10c10p?) might do, it seems reasonable to choose to connect to an experience machine, especially after any real-world responsibilities that can be discharged. Even if the machine-generated pleasures are meaningless, they are no more so than the life (or death) of total sedation, and they are hedonically valuable. However, it seems like Trisha would be best off requesting no biannual breaks. She could avoid a lot of pain, and possibly shame, by having her menu of blissful experiences chosen for her (possibly based on her original choices). So, while the use of Nozickian experience machines in palliative and end-of-life care is morally problematic, using them without biannual breaks might be morally permissible for patients in strong pain or worse pain and with prognoses of irreversible total pain.

### **Using Nozickian experience machines part-time**

While permanently connecting to an experience machine seems like a reasonable option for patients with, or soon to have, irreversible total pain, patients with less acute symptoms may wish to use a Nozickian experience machine part-time. Indeed, if loss of time or inclination to pursue meaningful activities in the real world is a downside of permanent connection to an experience machine, part-time use of one might provide a reasonable alternative.

Imagine James, a bedridden and probably terminal cancer patient who experiences fairly strong and stubborn pain. James' prognosis is not great, but his doctor thinks there is still a slim chance for a full recovery (making his full current status: i5s5c9p9). James doesn't live in the same town as his family, and many of his friends find it hard to get to the hospital to visit him. All told, James is visited about once a week by people he cares about. James has recently retired, and had no notable interests or hobbies outside of work and socializing with friends and family. As such, James spends most of his time trying to distract himself from his fairly strong and stubborn pain with pastimes he considers meaningless, such as watching television and doing crossword puzzles. James has attempted to befriend his ward mates, but



they are either too sedated to hold a conversation, or they are not a good fit for James. James' doctor presents him with an opportunity to take "experience machine holidays". James would be connected to an experience machine every Monday morning and disconnected every Friday night, making him available for weekend visitors.

To prevent relational discontinuity with his friends and family members, James would not interact with computer-generated versions of them while on his experience machine holidays. Instead, James would meet and develop relationships with computer-generated people—digital friends to go on digital adventures with. In this way, James would establish a new life that took over part of his old life, the two lives now oscillating much like a person with a "work life" and a "home life", only with the lives taking turns of a few days rather than a few hours. James would experience exciting and pleasurable activities during the week, and meaningful activities during the weekend. This situation might please everyone, but it is difficult to imagine the impact on James. As the pain kicks back in every Friday night, James might experience depression or anxiety. This funk may persist throughout the whole weekend. James might even wish for his visitors to leave early so that he can rejoin his digital friends and pursue activities unhindered by constant pain. On the other hand, talking to a real person, one who really loves him back, might make him realize that all of his machine-generated experiences are a mere distraction from the really valuable aspects of life.

While it's clear that James would experience hedonic value in his machine life, it is not clear whether he would experience any eudaimonic value. On the machine, James might experience eating the finest twelve-course degustation meal, or his solving of the Skolem Problem in mathematics. Both of these experiences seem to convey occurrent hedonic value. But, what about eudaimonic value? At the risk of offending those with culinary inclinations, eating fine food doesn't obviously contribute meaning to life. Solving the Skolem Problem, on the other hand, would be an immense achievement and contribution to mathematics; surely a meaningful activity. However, the meaning conveyed by such an activity seems to rely on the *actual* solving of the Skolem Problem. A deluded person might enjoy the experience of solving a major mathematical problem, but without his actually solving it, we would hesitate to describe the experience as meaningful. Imagine James on Friday night, shortly after getting off the machine. He would be suffering the return of his i5s5 pain, and possibly a heavy bout of shame about the glowing pride he felt about his fictitious mathematical achievement. In response, James might request that the experience machine technician make his digital experiences more credible to his waking self.<sup>14</sup> But note that the more credible James's digital experiences become, the less diverse and blissful they would be.

Einsteinian feats aside, a very important source of meaning for most people is their interactions with other people.<sup>15</sup> How would James feel about the special moments he shared with his digital friends while achieving modest ends, such as solving a crossword puzzle? Solving the puzzle means little to James, but the social interactions might be another story. Of course, when James comes off the machine on Friday night, he realizes that his interactions with his digital friends were just that—a story. Of course his digital friends

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<sup>14</sup> Nozick does not suggest anything like this, so an experience machine that only generates more credible experiences is a departure from his incredible depiction of the machine.

<sup>15</sup> Baumeister, R. F., Vohs, K. D., Aaker, J. L., & Garbinsky, E. N. (2013). Some key differences between a happy life and a meaningful life. *The Journal of Positive Psychology*, 8(6), 505-516.

laughed at his jokes and appreciated his thoughtful gift; they were programmed to do so! Even a prototypical quantitative hedonist, who would value her life solely by summing the pleasures and subtracting the pains, might disapprove of this strategy. She might worry that cognitive dissonance inspired by the weekly realization that her weekday experiences were fake would offset most or all of the machine-generated pleasures. In order to avoid disappointment every Friday night, then, should James ask the experience machine technician to omit all potentially meaningful interactions with digital people? If he did, then James's experience machine life seems like it would be less and less a rollercoaster ride of amazing experiences, and more like the life of Socrates's oyster—something akin to a nice long warm bath.<sup>16</sup> So James's weekday experiences seem to lack eudaimonic value, and have negative hedonic value when their counterfeit nature is revealed. It is hard to say whether this negative dissonance will swamp the occurrent benefits of seemingly meaningful interactions with digital friends. It seems likely that people with different levels of experience with virtual and augmented reality technology might experience widely varying levels of dissonance upon returning to the real world. So, perhaps in the future, experience machine holidays might work for some people. Regardless, another tweak of how experience machines work could resolve the dissonance worry.

### Experience machines as the best computer games ever

The problem of consequently realizing that the wonderful machine-generated experiences were fake can be avoided. The experience machine could leave James's memory intact, such that he realizes that his experience machine holidays are machine-generated while on them. Non-deceptive experience machines like this would be much more like highly engrossing computer games with hyper-reality graphics and a tantalizing personalized plot. After a week of playing 'the best computer game ever', James would not have to deal with any cognitive dissonance based on deception. However, James would not garner nearly as much eudaimonic or hedonic value from the machine-generated experiences. Achievements and interactions with others would seem relatively meaningless, and would be much less likely to generate hedonic value in the moment. Consider eating a digitally-generated gourmet feast that tasted wonderful, but was accompanied by a persistent and distracting vision of spooning piles of little zeros and ones into your mouth. This kind of experience machine is now quite far from that described by Nozick, but it is both closer to reality and perhaps more appealing to most patients in palliative and end-of-life care.

But would people want to spend most of their remaining days playing a computer game? First of all, recall that patients in palliative and end-of-life care tend to be suffering in some fairly intense and stubborn way. So, the relevant comparison is not between a normal relatively pain-free life and playing a computer game, but rather between a more or less sedated life of more or less suffering and playing the best computer game. Given this comparison, it may not even be necessary for experience machines to generate large amounts

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<sup>16</sup> In Socrates' Oyster thought experiment (c.f. Plato in *Philebus*, ii. p353), Plato's Socrates asks Protarchus to imagine a life without much pleasure but full of the higher cognitive processes, such as knowledge, forethought and consciousness and compare it to a life that is the opposite. Socrates describes this opposite life as having perfect pleasure but the mental life of an oyster. Plato (1937). *Philebus*, in *The Dialogues of Plato*, trans. by B. Jowett, New York: Random House.

of pleasure in the patients for them to be a good choice. For example, imagine a patient named Lois who is in strong, stubborn pain (i8s8c?p?). We can imagine her case in three mutually exclusive ways, by imagining three different ways of finishing the following sentence: “If Lois were able to be engrossed in some intellectually or cognitively engrossing and demanding activity, *then*...:

- (1) ...she would actually have less pain.
- (2) ...she would not actually have less pain, but she would notice the pain less.
- (3) ...she would not actually have less pain, and she would not notice the pain less.

It seems that an experience machine could benefit Lois in each of (1), (2), and (3). In (1), we have a simple case; an experience machine that reduces a bad thing—pain. In (2), perhaps an experience machine could do for Lois what ‘running for your life’ can do for a soldier, or what ‘taking a test’ can do for a student—namely, get Lois in what is colloquially called “the zone” or help Lois achieve what psychologist Csikszentmihalyi calls “flow”.<sup>17</sup> In (3), the machine doesn’t alleviate the pain, or the badness of it; rather the benefits of the machine-generated experiences add goodness to her life. So, even though Lois’s pain remains as central and unpleasant as before, that pain is now accompanied by various other positive elements in her mental life.

Jane McGonigal, world-renowned creator of *SuperBetter* and other alternate reality games, and one of Business Week’s ten top innovators,<sup>18</sup> seems to think that the prudential value of computer games could be much more than a pleasant distraction. In her words:

The real world just doesn’t offer up as easily the carefully designed pleasures, the thrilling challenges, and the powerful social bonding afforded by virtual environments. Reality doesn’t motivate us as effectively. Reality isn’t engineered to maximise our potential. Reality wasn’t designed from the bottom up to make us happy [ . . . ] Reality, compared to games, is broken [ . . . ] and we need to start making games to fix it (McGonigal, 2011, pp. 3, 9).<sup>19</sup>

McGonigal’s approach of providing an alternate realm to our broken reality may be alarming to those who would rather keep trying to fix the real world than give up and go digital. Indeed, it is a disquieting view when considered in relation to whole populations. However, the broad and continued appeal of digital realms like those found in *Second Life* is a positive sign for the utility of computer game-like experience machines in palliative and end-of-life care. McGonigal reports on global statistics which indicate hundreds of millions of people play computer games for over 10 hours a week (2011, p. 3). In the future, games will likely be far more engrossing. Virtual reality technology is a booming industry. Immersive sights and sounds will soon be joined by immersive sensations of all kinds. The power of computers continues to grow, enabling graphics, phonics and other features to become

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<sup>17</sup> Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.

<sup>18</sup> See the discussion on page 39 of: Mackenzie, Robin, and John Watts. "Robots, social networking sites and multi-user games: using new and existing assistive technologies to promote human flourishing." *Tizard Learning Disability Review* 16, no. 5 (2011): 38-47.

<sup>19</sup> McGonigal, J. (2011), *Reality is Broken: Why Games Make Us Better and How They Can Change the World*, Cape, London.

realistic to the point of experiential indifference from reality. But strange as it sounds, technology may not be the most important ingredient in continually immersive computer games. The “powerful social bonding afforded by virtual environments” may in fact be what most encourages throngs of gamers to keep coming back day after day to turn some zeros into ones. Could virtual reality games, and experience machines designed to emulate them, promote eudaimonic value?

### **Digitally mediated interactions: Eudaimonic value from experience machines**

Regular gamers often play in electronic sports leagues. Much like people who play social sports in the real world, these gamers often create strong social bonds with each other, including creating friendships that extend beyond electronic interactions.<sup>20</sup> In many cases, these friendships begin online as people from around the world meet while playing games. If palliative and end-of-life care patients could use experience machines to meet and interact with other people in an appropriate online environment, and relieved of distracting pains, then presumably experience machines could be used to generate eudaimonic value for these patients. Indeed, patients with total pain (10s10), or something close to it, may be incapable of interacting with people in the real world, but perfectly capable on an experience machine. In this way, patients with rapidly decreasing options for real-world eudaimonically valuable experiences could put some or most of their time and effort into generating eudaimonically valuable digitally mediated experiences on an experience machine.

Some people might fear that their digitally mediated friends are not true friends, that the apparent friendship may be a façade, perhaps designed to lure them into a position from which they can easily be taken advantage of. Wealthy Nigerian princes in emergency situations are out there, as are sexual predators. But most online friendships lack suspicious clauses and clandestine meeting locations. It seems safe to say that enduring online friendships that require of you only an empathetic ear from time to time are probably as genuine as your face-to-face friendships. But scammers and predators are not the only online threats. As is obvious to anyone who has played online games or read the comments left on online articles and videos, not everyone you meet online is likely to engender positive experiences in you. Small subpopulations of many online environments tend to act as “trolls”, purposefully behaving in a way that annoys others.<sup>21</sup> It might be assumed that an ailing cancer patient, somehow labelled as such in a game, would be not be targeted by trolls. However, there is evidence that some trolls enjoy violating norms of standard decency, including delighting in abusing people involved in online memorial events.<sup>22</sup> So while digitally mediated interactions with other real people may be a boon of eudaimonic value, they may also permit devastating negative interactions, even for those in manifestly bad states of health.

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<sup>20</sup> Trepte, Sabine, Leonard Reinecke, and Keno Juechems. "The social side of gaming: How playing online computer games creates online and offline social support." *Computers in Human Behavior* 28.3 (2012): 832-839.

<sup>21</sup> Buckels, Erin E., Paul D. Trapnell, and Delroy L. Paulhus. "Trolls just want to have fun." *Personality and Individual Differences* 67 (2014): 97-102.

<sup>22</sup> Phillips, Whitney. "LOLing at tragedy: Facebook trolls, memorial pages and resistance to grief online." *First Monday* 16.12 (2011).

One way in which the eudaimonic benefits of real interactions could be incorporated into experience machines without the risk of users being scammed or trolled would be to create digital realms with entry criteria. In the context of palliative and end-of-life care, each patient would be assigned a digital world which they could enter through their experience machine (at least for the purposes of controlling their pain). Other people could then access this digital realm using a password from their home virtual reality system, or experience machine extensions at the care facility. The result would be something like the experiences of the characters in the movie *Inception*, although there would be fewer sudden landscape changes and angry mobs.<sup>23</sup> The patient and the select few she chose would have access to a shared virtual world. Thanks to advances in computer technology, the players in this game would be able to interact with each other in a way very similar to, and eventually indistinguishable from, real life. Players will see the faces, hear the words and feel the pressure and warmth of the touches of other people. Presumably, the digitally mediated, but genuine interactions will generate feelings of familiarity, comfort, and happiness. Given time, and probably not much of it, players could interact in a way that brings eudaimonic meaning to their lives; they could share experiences, mend broken relationships, express their feelings in various ways, and be there for the other person.

This kind of experience machine enables a wide range of options previously very difficult or impossible to achieve without such technological assistance. After an initial meeting in the real world, Trisha, James, and Lois could have befriended each other and developed their friendship in a shared virtual world. In her (i10s10c10p?) state of total pain (Later-) Trisha could not meaningfully engage with the others in the real world. But, using an experience machine, she could enjoy developing a real and meaningful friendship. (Later-) Trisha could enjoy eudaimonically valuable experiences on the machine that were not possible in the real world. Furthermore, she has nothing to later regret, as she will never leave the machine. But even James, who does leave the machine every weekend, has nothing to regret about the digitally mediated, but otherwise real, friendships he is forging with Trisha and Lois.

Since information can travel much more quickly and cheaply around the globe than physical bodies, this kind of experience machine also makes it easier for spatially distant friends and relatives to spend quality time with the patient. Many people might not be able to afford the time or money required to travel the globe for weekly visits, no matter how important the patient is to them. A real life face-to-face meeting may be the highest quality kind of interaction, but much more value may be accrued by more frequent virtual visits. Virtual visits may also be of much higher quality than some real-world face-to-face visits. Face-to-face visits with (Later-) Trisha, for example, would be much less meaningful, especially for Trisha herself, because of her incapacitating total pain (i10s10). Visitors, especially younger ones, might also find it particularly difficult to see someone they love in pain or with major physical injuries. Both the pain and physical injuries can be concealed in the virtual world, making the interaction freer for the patient and less stressful for the visitor.

Many people who are initially less favorably disposed to experience machines might be in favor of the type of experience machine that allows for such reunions of family and friends, perhaps to a very a high degree. One of the most crushing things about chronic illness, especially at the end of life, is the sense of loneliness, and social isolation more generally—

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<sup>23</sup> *Inception and Philosophy*, Edited by D. Kyle Johnson, Wiley-Blackwell.

the feeling of being “cut off” from loved ones. If an experience machine could alleviate that loneliness to some degree, that would rescue a person—and it would rescue the experience machine from the charge that it’s inherently isolating and devoid of opportunities for eudaimonic value. So, experience machines designed to model the best computer game ever are not only much more realistic than Nozickian experience machines, they provide a beneficial alternative to a wide range of palliative and end-of-life patients without the moral problems associated with the other kinds of experience machines discussed above.

### **The best computer game ever and isolation from God**

So far, we have discussed some negative and some positive potential applications of experience machines. But in this final section, it’s worth considering two more end-of-life issues that experience machines might help address: one dealing with physician assisted suicide, and the other dealing with God.

Although Nozick refers to entering the experience machine as a kind of suicide, another nuanced philosophical view is available. There may be a potential silver lining in even the most dystopian use of experience machines—like those in *Brave New World* and elsewhere: namely, that as bad as they might be for the patient or her family, experience machines might actually curb some of the demand for physician-assisted suicide and euthanasia, which some people view (contra Nozick) as very different to entering an experience machine, and indeed as even worse than entering such a machine.

We alluded to this earlier; in some cases, patients are in such severe pain that they would prefer to end their own life than to continue experiencing it. For such patients, they might welcome an experience machine as an option in addition to the possibility of having a physician help them end their biological life entirely through prescriptions of certain drugs or through Kevorkian’s “death machine” (which he called a “Thanatron”). An experience machine, whatever else you might say about it, does allow a patient to remain biologically alive. It does not, by itself, end her biological life.

So various people who find themselves opposed to suicide, whether physician-assisted or not, might find themselves attracted to the availability of experience machines as a kind of technologically mediated palliative care solution to the various forms of suffering which motivate patients to seek to end their biological lives. Of course, some of the people who undergo that suffering do not believe in God or an afterlife. But most of them would still much prefer to go on living, having some experiences of a tolerable sort, instead of dying, and thereby cutting off all possibility of experiences. On the other hand, some people do believe in an afterlife or God. While exploring how their attitudes towards an experience machine could open up several more discussions, it’s worth thinking briefly about how the general features of this approach might intersect with the question of suicide in particular.

One way of thinking about the human body is that this mortal coil already is the closest thing we have to an experience machine. Indeed, the suggestion can be put more strongly still: perhaps each human body *is* an experience machine. Perhaps it’s a mechanistic network of sorts that allows the user a meat-based medium for interacting with the world. Or perhaps it’s a high-powered organic computer that generates experiences even where the pre-

functional elements of the computer would have generated no experiences at all.

Some would object to this stronger suggestion on the grounds that it instrumentalizes the human body, and thereby makes the human self, which “has” or “uses” the body, a kind of spooky soulish thing. These critiques do not always come from materialists but sometimes even come from philosophically sophisticated Roman Catholics, yet in terms that do not rely upon their own distinctive religious teachings.<sup>24</sup> Still, since others might be unpersuaded by such objections, it is worth considering what this ‘human body as experience machine’ thesis implies about the moral wisdom of using an experience machine (or rather, *another* experience machine!) in an end-of-life context.

Perhaps it leaves the moral question like this: what is wrong with an individual seeking to have another instance of something she already has one of? Is the only objection left that getting a brand new experience machine is (to echo Bernard Williams in a different context<sup>25</sup>) one experience machine too many?

No. A better concern is that the typical experience machine might distract people from thinking about what really matters towards the end of their life. Many will affirm that what really matters includes relationships, and especially family relationships (think again of the *Brave New World* example of John and his mother Linda). But on some religious and philosophical views the set of really significant relationships also includes one’s relationship with the divine. This might mean that an experience machine that smothers us even with virtual relationships may be distracting us, keeping our minds off of the inevitable and inestimably more important relationships that we are wired to enjoy—and, some would say, created to enjoy. As one of us put a similar point recently:

When approaching the end of life, a Christian will want to best prepare herself for meeting God face to face (and will want to best prepare those she loves to do the same). The virtues one needs when preparing to die well are not merely prudentially managing one’s pain and suffering, or courageously getting through that pain and suffering. Nor merely the backward-looking virtues of settling accounts and repairing relationships with one’s friends and foes (and family, which straddles both friends and foes!). Those all do matter, of course, but what about the self-examination needed to prudentially avoid postmortem pains, to courageously prepare for meeting one’s Maker, and to repair the relational strains with one’s truest Friend and Father in heaven?<sup>26</sup>

To the extent that the presence of experience machines might thwart that sort of reflection, we can see why some philosophers would be reluctant to embrace them. Experience

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<sup>24</sup> Patrick Lee and Robert P. George, *Body-Soul Dualism in Contemporary Ethics and Politics* (Cambridge: Cambridge University Press, 2009).

<sup>25</sup> Bernard Williams, *Persons, Character and Morality*, in *Moral Luck* (Cambridge: Cambridge University Press, 1981, p.17), as discussed by Elinor Mason, “Do Consequentialists Have One Thought Too Many?” *Ethical Theory and Moral Practice* 2, no. 3 (1999): 243-61. <http://www.jstor.org/stable/27504093>.

<sup>26</sup> Russell DiSilvestro, “The Arc of the Moral Universe Is Long, But it Bends Toward Mercy and Grace: And Other Delightful Surprises of a Distinctively Christian Bioethics,” *Christian Bioethics* 21 (2015): 262-281 (doi: 10.1093/cb/cbv009), footnote 10.

machines might be precisely the sort of “quick fix” to the sorts of suffering—whether pain, boredom, loneliness, or their intermixture—that can spur reflective consideration about the direction and destiny of one’s life. The illusion of “control” provided by their virtual environment might mask from users precisely that awareness of their powerlessness, and vulnerability, and eventual loss of all things autonomous that can turn hardened sinners into holy saints.

However, at least two points can blunt the force of this objection. First, the mere presence of a non-suicidal option, even if it’s as boring as the pleasures of a Socratic oyster, may be, in theological language, one of those “ways out” that St. Paul talks about God providing whenever someone faces temptation<sup>27</sup>—in this case, the temptation of suicide. If you believe suicide is a (mortal!) sin, it may be with gratitude for your soul that you accept the consolations of an experience machine to ease the remainder of your journey in this earthly life.

Second, there is nothing about the nature of experience machines themselves that in any way requires them to be used to put off significant moral or theological reflection. Indeed, we can imagine someone turning that type of argument around, in favor of experience machines. Just think what the Vatican could do if it teamed up with Apple. The idea is not one of creating a “virtual purgatory”—where one literally “scares the hell out of” a dying person using computer-generated scenes of damnation, demons, and Democratic National Conventions. Rather, the idea is to create the virtual space in which one can converse with one’s priest (if he plugs in to his portal), one’s pastor (if he or she plugs into hers), and one’s favorite theologians in the form of digital avatars (say, “apps” for Augustine, Anselm, and Aquinas). Why? Well, precisely, to help one prepare for the journey to that undiscovered country Shakespeare wrote about.

## Conclusion

We have argued above for several claims, which we order here both to recapitulate the argument, and to indicate the arc of points on the spectrum of opinions we find plausible:

1. Some experience machines are inappropriate, both prudentially and morally, for some situations (for example, the *Brave New World* combination). Experience machines that prevent eudaimonically valuable experiences and spread rather than mitigate pain are unlikely to be prudentially or morally valuable.
2. Shared “computer game” experience machines—of both part-time and full-time varieties—could easily be prudentially good, in both a hedonic and a eudaimonic way, for people with moderate or worse pain (i5+s5+) and especially unfortunate prognoses (i5+s5+c5+p5+), with the full-time machines being more appropriate for the more extreme cases. The eudaimonic benefits (surprisingly) seem to extend to meaningful relationships with other people and perhaps even with God.
3. Even permanent Nozickian experience machines—with no getting out to program

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<sup>27</sup> 1 Corinthians 10:13: “No temptation has seized you except what is common to man. And God is faithful; he will not let you be tempted beyond what you can bear. But when you are tempted, he will also provide a way out so that you can stand up under it.” (New International Version)



future experiences—can be prudentially good in at least a hedonic way for people with or soon to experience irreversible total pain (10s10c10p?).

We have also opened the door for future discussions on several related topics:

1. Perhaps both shared and solo “computer game” experience machines of a part-time (not permanent) nature are good for people with temporary pain when they use the machines while in pain and when they do not have real world activities worth doing.
2. Perhaps permanent “computer game” experience machines might provide decent lives, although they seem eudaimonically superior if they involve other real people.