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# From Taquería to Medical School: Juan Carlos, Aristotle, Cognitive Enhancements, and a Good Life

Glenn M. Trujillo, Jr.

**Abstract:** This paper begins with a vignette of Juan Carlos, an immigrant to America who works to support his family, attends classes at a community college, and cares for his ill daughter. It argues that an Aristotelian virtue ethicist could condone a safe, legal, and virtuous use of cognitive enhancements in Juan Carlos's case. The argument is that if an enhancement can lead him closer to *eudaimonia* (i.e., flourishing, or a good life), then it is morally permissible to use it. The paper closes by demonstrating how common objections to cognitive enhancement fail to undermine Juan Carlos's justifiable use of the technology. The particularities of his case make it morally acceptable for him to use enhancements in certain situations. The paper, thus, constructs a limited, positive case for the virtuous use of pharmaceutical cognitive enhancements.

**Key words:** cognitive enhancement, human enhancement, Aristotle, virtue ethics, *eudaimonia*

## 1. Juan Carlos and the Quest for a Good Life

At a quarter to midnight, Juan Carlos's non-slip shoes thudded onto the floor like rubber bricks. Then, his apron and hairnet. Then, his body on his bed and his eyelids on his cheeks. Thirty minutes later, the vibrations from his alarm pestered him awake. He showered, heaped onions and cilantro on some tacos from work, cracked open a Red Bull, and clicked on his lamp to study for three hours. Only the leaves of his textbook and his pencil made noise after that. The others said they never heard him when he arrived home; but he saw their blankets squirm and eyelashes flutter if he dropped a book or audibly marveled at proton pumps or

immune responses. He lived in Houston with his mother and grandmother, who cared for his daughter most days. Each morning he would wake, eat breakfast with his family, walk his daughter to school, and then go to work, classes, and work once again. Their small apartment just outside the airport was a short walk from both the taquería sink that amassed the dishes he washed and the community college professors that piled his table with books and notes. Yet the embers of his spirit glowed through the ash of exhaustion. He felt lucky—to escape Chihuahua’s cartels and the fate of his own father, to become something better. He had three more classes to finish his associate degree at Houston Community College. Then, he could transfer to the University of Houston to major in biology and afterward, hopefully, gain admission to Baylor College of Medicine to become a pediatrician. His own daughter’s physicians were a consistent source of hope and civility in her cruel battle with disease.

This paper asks: Would it be so bad of Juan Carlos to take a pill—which I will call “Renew”—that would mend his mind from the day’s stresses and allow him to sustain his study sessions? Or, in philosophical jargon: Would it be morally permissible for Juan Carlos to use a pharmaceutical enhancement to augment his cognitive performance? I argue, with certain qualifications, that taking an enhancement regimen could bring him closer to *eudaimonia* and, thus, be permissible.<sup>1</sup> *Eudaimonia* provides a consistent, governing reason that organizes his life, and it is possible that Renew can fit into his quest for a good life. Were Aristotle to sit down at the sticky, foldable tables of the taquería near Highway 45 and strike up a conversation with Juan Carlos as he cleared plates, he would be able to condone Juan Carlos’s decision.<sup>2</sup>

This paper aims to fill a long-standing gap of Aristotelian approaches in applied ethics. Over the past three decades, Rosalind Hursthouse has allayed criticisms that virtue ethics is merely theoretical and useless for applied ethics (2003; 2002; 1995a). I hope to contribute to her adept defense of Aristotelian ethics as properly action-guiding. Concerning biotechnologies specifically, Justin Oakley has remarked that virtue ethics is only now, in the past few years, beginning to address the topic of human enhancement, compared to more prolific Kantian or utilitarian approaches (2013, 215).<sup>3</sup> The work of scholars like Barbro Elisabeth Esmeralda Fröding (2013; 2011) and Shannon Vallor (2015; 2011) demonstrates how Aristotle’s ideas can guide these new debates. However, the extant literature usually leaves underdeveloped the central concerns of this paper: *eudaimonia* and non-therapeutic enhancements.

Employing *eudaimonia* as the main justification distinguishes me from most other neo-Aristotelian virtue ethicists, as I address moral character only secondarily. My reason is this: considering *eudaimonia* as the goal of virtuous living allows for a more holistic evaluation. Even though virtue ethicists contextualize actions in terms of who performed them and the character traits they express, using *eudaimonia* adds a framework for the traits themselves. This is because *eudaimonia* is the accomplishment of an entire life lived well. Calling someone “*eudaimon*” means she harmoniously integrated her moral and intellectual character, befriended others, and managed the competing goods of life. This holistic aspect—evaluating the harmony of a person’s entire development and narrative—redirects philosophical attention. Thinking in terms of *eudaimonia* forces ethicists to keep the whole person *and* the entire trajectory of her life in mind. My argument, thus, navigates the ethical obstacles by orienting itself with the core components of *eudaimonia*.

This paper, thus, ventures into an inevitable, near-future problem for bioethics, hoping to chart an Aristotelian route through choppy, moral waters. Moreover, instead of merely issuing ambivalent warnings, this paper constructs a positive scenario that demonstrates when enhancement use could be *integral* to living a full, flourishing, human life. The motivation for the paper is to show how Aristotle’s ideas about living well provide novel solutions to contemporary puzzles. The map of my argument, however, should not be used to navigate two millennia of historical debates on Aristotle’s ethics. Interpretations of Aristotle, the good life, and moral psychology proliferate, but the level of justification deployed in my argument should bypass meta-theoretical worries about exegesis, character, reasons for action, and human nature.<sup>4</sup> So, while theoretical differences exist between Aristotle, Aristotelians, and neo-Aristotelians, they are unimportant for this project. Moreover, I write in the voice of Aristotle only as a heuristic, literary way of defending enhancements via core ideas in Aristotelian virtue ethics. Therefore, unless I use direct quotation, I do not mean Aristotle literally gave this exact advice.

My argument assumes a few things. Concerning Juan Carlos, I assume that he has no prescription for the drug, but that he may use it legally. Were the drug illegal, it might cultivate an unjust or imposturous character that would certainly impede his ability to flourish, and it would add criminal risk to his behavior.<sup>5</sup> I also stipulate that, through the support of his family, he maintains a relatively healthy lifestyle, even if stressful. Renew amends no cognitive deficiency and instead takes him beyond his normal capacity to peak human performance. Concerning the drug, I assume that it has few side effects for Juan Carlos. Unlike contemporary cognitive enhancements and psychostimulants, the side effects are mild and

well-documented in the medical literature, which Juan Carlos read and understood before taking Renew. Perhaps, we can assume his mother is a nurse and monitors his health for indications of adverse effects. Were Renew experimental or poorly researched, Juan Carlos would shun the risk involved in taking the drug and signpost the epistemic challenges to rendering a rational decision.

Despite these assumptions, I hope the scenario strikes my readers as plausible.<sup>6</sup> These assumptions set aside troublesome puzzles about how to distinguish medical interventions from enhancements or augmentations.<sup>7</sup> They also avoid practical worries about the ill effects of specific drugs like Adderall, modafinil, or Ritalin.<sup>8</sup> Both types of worries are crucial for the ethics of enhancement, but they needlessly complicate the present scenario. I want to try to isolate one variable at a time; for this paper, cognitive enhancement as such. My goal here is to show how Aristotelian ethics might condone the use of certain enhancements for some people. I agree with much of the literature that using enhancement involves moral risk. Yet I disagree that all cases can be evaluated in the same way, or that enhancement technologies should be banned universally. My argument sets aside many objections not to belittle them, but because they are probable defeaters. My strategy is to find *at least one case* where a person's use of enhancements leads her toward a fully flourishing human life that would be otherwise unaccomplishable. Even if this case turns out exceptional, it may reveal a border between moral and immoral enhancement use.

## **2. Aristotle, *Eudaimonia*, and Advice to Juan Carlos**

My argument may be formalized as follows:

1. Moral agents strive for *eudaimonia* (flourishing).
2. If a biotechnology can facilitate *eudaimonia*, then it is morally permissible to use.
3. If the technology impedes *eudaimonia*, then its use is morally impermissible.
4. In Juan Carlos's case, the enhancement regimen will facilitate *eudaimonia*.
5. So, it is morally permissible for him to use.

Like Aristotle, I assume that people are interested in leading a good life—becoming the best thinker, feeler, doer, and friend they can, and savoring the goods of life like education, health, relationships, and art. This is the foundation of the temple of morality. My argument here will not convince anyone living in a moral

barrel and dining on onions to visit the altar of self-improvement or strive for good things. However, in assuming that we all want to live a good life, I, then, ask: will the use of enhancements lead a person closer to that goal? If yes, then it becomes permissible.

### 2.1 Aristotle on a Good Life

But what counts as a good life?<sup>9</sup> Fundamentally, a person achieves *eudaimonia* when living in a full and characteristically human way, or as Aristotle writes, “the human good turns out to be activity of soul in accordance with excellence” (2002, 1098a16–17). As individual, biological organisms, this means taking care of needs like nutrition, growth, and basic animal functions. As animals with a complex psychology, this involves a holistic training of the mind.<sup>10</sup> People must learn to critically understand and evaluate the self, set goals, and find the best means to achieve them. Rationality, though, seeks not only theoretical knowledge and practical know-how, it also regulates one’s desires, emotions, and dispositions. Virtuous people feel good about doing good things and bad about doing bad things, and they are motivated to act well in any relevant situation at any time.<sup>11</sup> Reason fine tunes every aspect of the self. However, even though reason drives the chariot of the mind, Aristotle respects that humans yearn and crave, loathe and revolt. Emotions and habits are powerful. They provide moral momentum that carries one through tough times. They might even detect relevant information in ambiguous situations. So while they must be developed according to reason, emotions and behavioral dispositions sometimes do work that reason cannot. This is why each part of the mind must be developed.

A good life, however, involves more than atomistic individuals. We need others to educate us morally, teaching us what a developed mind and cultivated life are. Humans are social animals that depend on each other to relish the full bouquet of life’s goods. Therefore, friends, colleagues, and fellow citizens partially constitute *eudaimonia*. An *eudaimon* life, thus, includes meaningful relationships with others and integration into a community. In its best form, a good life involves others, for example when virtuous friends scale moral challenges together or when political members build a community to facilitate the thriving of as many people as possible.

At its heart, *eudaimonia* comprises a complete life, missing nothing essential to our humanity. It is open to everyone with the capacities to live well. This is why it can be used in acts of deliberation. It is the end goal of life, and everything reaches toward it.<sup>12</sup> Or as Aristotle emphasizes, “So happiness [*eudaimonia*] is

clearly something complete and self-sufficient, being the end of our practical undertakings” (2002, 1097b20–21).

A critic might object that these details about a good life seem too loose or undefined. Aristotle would emphasize that ethical inquiry adapts to the particularities of situations, cultures, and times, and that people wise about moral life always defer to experience. While there are non-subjective, non-relativistic bases for morality, ethics can offer only rough sketches and outlines of the truth that then get tested in living (Aristotle 2002, 1094b11–25, 1098a25–33).<sup>13</sup> Ethical discourse is inherently imprecise in ways that logic and physics are not. Moreover, knowledge of universals is not necessary for ethics. Aristotle clarifies:

[T]he good deliberator is the one whose calculations make him good at hitting upon what is best for a human being among practicable goods. Nor is wisdom [*phronesis*] concerned with universals: to be wise, one must also be familiar with the particular, since wisdom has to do with action, and the sphere of action is constituted by the particulars. That is why sometimes people who lack universal knowledge are more effective in action than others who have it—something that holds especially of experienced people. Suppose someone knew that light meats are easily digestible and so healthy, but not what sorts of meat are light: he won’t make anyone healthy, and the person who knows that meat from birds is light and healthy will do so more. But wisdom [*phronesis*] has to do with action; so we need to have both sorts of excellence [*sophia* and *phronesis*]*—no, we need wisdom [*phronesis*] more.* (2002, 1141b12–22; point repeated at 1142a15)

Yet the imprecision and deference to particularities and experience fail to diminish the importance of ethics. People live and die by their conceptions of a good life. Myopic focus on social standing, wealth, or pleasure breeds superficiality, greed, and debauchery (see Aristotle 2002, 1094b11–25).<sup>14</sup> Most recoil at the dilapidated structures built by those with distorted plans for a good life. So, guides for a good life exist, but they are inherently inexact, unable to be fully abstracted from particular moral circumstances without losing morally relevant information.<sup>15</sup>

*Eudaimonia*, therefore, involves pluralism in the ways it can be instantiated. For example, the demand to develop the body as an organism might rightly be fulfilled eating pinto beans and tortillas or rice and pork belly. Or, the demand for social integration might mean farming dent corn and selling to local markets, or trading on Wall Street and mixing with millions of people each day.<sup>16</sup> Aristotle’s empiricism commits him to observing the merits and challenges of different life-

styles and avoiding prejudice, categorical bans, or dogmatic infallibility on any ethical or political rule (see Foot 1972).

So, when analyzing decisions from an Aristotelian framework, Aristotelians must refer to people's reasons and goals for their actions and how they feel about acting, as well as each action's socio-historical context, manner of execution, and fit with the actors' lives. The intricacy of moral life requires a holistic analysis of a person's psychology, aspirations, social life, and pursuit of the abundant goods of life.<sup>17</sup>

To reemphasize, I will not rigorously defend my interpretation of Aristotle, or the systematic metaethical picture of neo-Aristotelians like Hursthouse. This argument needs only to avoid obvious pitfalls, while also providing footholds for action-guiding advice. This practical aspect is my main goal.

## 2.2 Aristotle's Advice to Juan Carlos

So, in using Renew as our example, what must Juan Carlos do to gain Aristotle's approval?

Initially, Juan Carlos must frankly assess (a) himself as he exists now and (b) the person he wants to become. Enhancements must fit into both of these considerations and not jeopardize his lifelong goal to live well. They must support his plan to become a flourishing person, and they must survive the scrutiny of facing life after the decision. Juan Carlos would use Renew to improve his psychological health. After all, in his situation, he can do nothing more to help himself along—through jogging more, eating leafier vegetables, praying the Liturgy of the Hours, or mingling with different folk. Even if he had the time or means, he is such a good person that the added effect of anything else except Renew would be negligible. Renew provides a unique avenue to travel toward *eudaimonia*, one not provided by lifestyle changes.<sup>18</sup> If safe and properly used, Renew can fit just as easily into his life plan as double-shot lattes, Technicolor *pan dulce*, or a cool Corona with lime—the other forms of chemical augmentation many Texans regularly subject themselves to. Renew allows Juan Carlos's mind to think more clearly for extended periods of time and accomplish his goals of being a good son, father, worker, student, and future doctor. Were the drug to sacrifice his health, be used in the service of greed or addiction, or shirk his responsibilities, it would rightly be condemned because it would impede his flourishing. But with the rest of his life right, Juan Carlos could use the enhancements. He could answer affirmatively the question: will using this enhancement help me become who I need to be to flourish? Aristotelians can provide no in-principle objection to enhancements and

must assess cases by attending to particular details. And for Juan Carlos, Renew offers a morally permissible avenue to travel toward virtue and, after an arduous journey, arrive at *eudaimonia*.

Part of this permissibility comes from the realization that Renew's cognitive enhancement provides no shortcut to a good life. Enhancements are not sufficient conditions for *eudaimonia*; they merely facilitate flourishing and virtue rather than substituting for it. Developing the good habits that lead to a successful life occurs over a lifetime, and Juan Carlos must scrupulously attend to everything in his life, even if he takes Renew. Cognitive enhancements cannot instill the magnitude of experience, knowledge, sensitivity to salient facts, or psychological resilience that it takes to lead a good life. At best, they might only give the person the psychological prerequisites to begin gaining the experience, knowledge, and emotion necessary to flourish.<sup>19</sup> Renew cannot give Juan Carlos the information he needs to live well, but it can make him more receptive. Renew enhances his cognition without enhancing his character. By themselves, pharmaceutical cognitive enhancements cannot make Juan Carlos *eudaimon*, or even virtuous, but they might ease the process. This is what assuages concerns that his autonomy dwindles by taking Renew. Renew helps him to achieve *eudaimonia*, but not without his critical consideration of whether to take Renew in the first place or continue the regimen. He is ultimately responsible for his moral successes and failures because he regulates his use of Renew, puts himself in situations for necessary life experiences, and trains his own psychology to strive for a good life. Renew does none of these things itself, so Juan Carlos maintains his autonomy.<sup>20</sup>

In fact, in Juan Carlos's case, Renew may help to mitigate the detriments of moral luck. He chose neither the circumstances he faces every day nor his cognitive capacities.<sup>21</sup> He may light candles at the Queen of Peace Catholic Church each Sunday, while holding his daughter's and grandmother's hands to thank God for his move to Houston. But his gratitude, discipline, and determination cannot un-numb his mind from ten hours of bussing tables or calm the stress of balancing work, family, and his aspiration to help others. Renew instead provides the psychological prerequisites of virtue, making him a sharper thinker and more prudent in relation to the goods and situations of moral life. Instead of luck determining all of his biological limitations or responses to stress, enhancements may give him some control.<sup>22</sup>

To reiterate, Juan Carlos may morally permissibly use Renew on the conditions that it helps him work toward a good life, passes the moral scrutiny of himself and his loved ones,<sup>23</sup> and does not cultivate vices that will harm him later in

life. Renew can fit into his life, especially since he is a virtuous, self-scrutinizing, and serious-minded person.<sup>24</sup>

### 3. Replies to Criticisms from Openness, Honesty, and Justice

A group of critics might quickly rejoin: but does Juan Carlos's use of enhancements not manifest a hubris to control everything? Does it rob him of morally formative opportunities to fail? For example, Michael Sandel argues that certain enhancements are unethical because they close us off to our relationship with uncontrolled aspects of our lives. The sanctity of relating to mystery and nature is replaced with the arrogant desire to master both, which resultantly erodes our empathy. Losing an "openness to the unbidden" slams shut the very psychological faculties that allow a virtuous person to respond to relevant emotional and social information in life (Sandel 2004; 2007, 45ff.).<sup>25</sup> Relatedly, historian Michael Bess worries whether use of some enhancements takes away our opportunity to fail if it automates human responses. If the enhancement enables only perfection, it leaves no choice, challenge, or room for alternate possibilities (Bess 2015, 130).<sup>26</sup> Both arguments worry that enhancements undermine the psychological capacities necessary for moral life, or that they stunt moral development.

These concerns seem misplaced, however, especially in Juan Carlos's case. Cognitive enhancements fail to eliminate two chasms of luck: the circumstances we live in and the way things turn out (see Nagel 1992). If Juan Carlos used even far-future technologies to transform himself into a genius of intellect and emotion, he would still face the daunting task of overcoming sharp odds. For Aristotelians, moral life cannot be reduced to self-mastery. It is an interaction between the self, others, and one's circumstances. It is an openness to receiving whatever fruits the vines of our labor yield. And as any farmer or gardener knows, even if the seeds are carefully selected, planted, and nourished, this is no guarantee of any fruit, much less supple or edible crop. Renew does nothing to change the luck of how things turn out or the environment.<sup>27</sup> These two things would provide reason for him to remain open, humble, and understanding.

Renew would also leave ample opportunity to cultivate the self. Because Renew would change him in significant ways, he would need to attenuate his particular dispositions virtuously and integrate his self-understanding into his plans to achieve a good life. The virtuous must regularly tune themselves to *eudaimonia's* scale and adjust their performance to the venue of their present circumstances.<sup>28</sup> If used with sympathy, sensitivity, and genuine concern for others, Renew could be part of a virtuous life. If, however, it led to callousness, selfishness, obsession, or

loss of control, it would rightly be condemned. Even so, notice that the objections Aristotelians make are not to the drugs in-principle, but to the contingent and situationally sensitive facts about what kind of person they turn each of us into and how we measure up to *eudaimonia*. Striving for *eudaimonia* is the holistic, governing, evaluative reason in moral decisions. But it must be particularized to each person and set of circumstances.

A second group of critics may concede that Juan Carlos's use of Renew is morally permissible as a son, father, or friend, as it does not harm himself or his loved ones. But as a worker (especially in the future as a doctor), or as a student (especially when vying for admission to a top medical school), he unfairly sets himself up to earn more money, win more awards, or gain more repute than unenhanced people. The problem arises especially concerning positional goods, or goods that only have value for someone if others lack them (Singer 2009, 281–83).<sup>29</sup> These critics might also add that Juan Carlos is establishing an unhealthy relationship with work that might spawn habits that would block his path to a good life. These critics worry about unfair advantages earned by illicit enhancements and the mindset of someone who would use them.

I agree with many of their points. Aristotle would not condone the ruthless pursuit of instrumental goods because it shows the person has lost focus on *eudaimonia*. Making the most money and winning the most awards with an “at all costs” attitude cultivates avariciousness, rashness, and self-indulgence. If people lose large-scale focus on *eudaimonia* due to the allure of competitiveness, glory, and goods, they cannot flourish because they will neglect other aspects of their lives. If enhancement use prevents flourishing, or even makes a person more susceptible to cultivating vices, it is morally impermissible.<sup>30</sup> This is why I stipulated that his use of the enhancement is legal. Aristotle would deplore cheating, concealing an advantage, or jealously chasing goods.

But with Juan Carlos, he strives only to cultivate himself, love his family, pursue an altruistic goal, and overcome bad moral luck. In the future, if he toiled seventy hours at a clinic, thus neglecting his family and health, and if Renew facilitated this, then its use would be impermissible. Work is rarely of such importance that we need to take undue risks upon ourselves or jeopardize *eudaimonia*. The notion of taking enhancements for the sake of our work depends on either the delusion that we are geniuses or the illusion that work is the end goal of life. But even Nobel Laureates work in teams and compete with other groups to replicate revolutionary research, and one of the most common deathbed wishes is to have spent less time at work and more time with loved ones. Aristotle would warn

Juan Carlos that we are vulnerable to getting ensnared in trends or trapped on the treadmill of prestige. Advancing our careers at the expense of friends, family, and self-improvement is rarely advised. Aristotle would also contend that, even if his use of Renew could be justified as a young man, it might not be justified in the future, when his character progresses, his environment changes, or his situation improves. *Eudaimonia* and virtue are dynamic dispositions that interact with others and the environment. The young, struggling, and virtuous Juan Carlos differs radically from an old, slothful, or materialistic Juan Carlos; the use of Renew would change its moral valence accordingly. In other words, moral stakes can change. Young Juan Carlos can justifiably use Renew to cultivate his character and help others. But an older, settled Juan Carlos cannot, if Renew is solely a means to advancing up the administration at MD Anderson Cancer Center, upgrading his Mercedes-Benz, or closing on a hot property in Rice Village.

To understand *eudaimonia* and a career's place in our lives, Aristotle would encourage Juan Carlos to examine his workplace critically. If it is the case that a work environment places excessively high demands on people—to research, publish, and work unsafe hours—the expectations should be met with skepticism. Part of keeping *eudaimonia* in mind is that it helps one to judge the relative gravity or lightness of any given issue. Such a long-term and teleological focus allays some of the unhealthy habits of contemporary life, something that enhancement use may turn into if it is used as a means to meet tyrannical labor demands. Aristotle even goes as far as to argue that happiness requires respite from our labors (2002, 1177b4–6).

Moreover, if a workplace heedlessly demands everything of its members—such that people need enhancements to keep up or need to sacrifice *eudaimonia* to succeed—then virtuous people would not merely comply and take enhancements. Instead, they would courageously confront the culture of academia, medicine, or business. Here, we can consider the progress made by scientists and philosophers in the past few decades with respect to women's rights. Had women and their allies simply gone along with the culture in academia, instead of fighting for their rights and changing the environment of sexual predation and unequal treatment, we would not be where we are today.<sup>31</sup> If an institution needs to change, virtuous people must confront and try to advance it.

But the previous group of critics might sharpen their objection. They might concede that Juan Carlos could maintain a good life at work and at home. But enhancements used by anyone, they argue, threaten social justice. Their use risks creating class rifts between enhanced and unenhanced people because the en-

hanced perform better psychologically. Science fiction artists and ethicists have long been concerned with the social schisms that might occur due to biotechnologies.<sup>32</sup> And theorists like Maxwell Mehlman and Jeffrey Botkin, for example, worry that biotechnologies might swell the gap between the lower and upper classes to such an extent that equality of opportunity and upward mobility become farces. With such a wide expanse, foundations of social justice plummet into the abyss (Mehlman and Botkin 1998, chap. 6).<sup>33</sup> Because technologies are expensive when new, some warn that the rich will buy them and improve their lives, while the poor get left behind. The concern is that the rich could literally buy better cognitive and physical capacities. Add this to other advantages like elite educations and intergenerational wealth, and everything could compound to form a schism. These critics emphasize the wider social and political implications of even entertaining the idea of enhancement use.

Again, though, the social stratification objection misses the mark when criticizing Juan Carlos. He is from the lower classes, and he uses the enhancements to mitigate the effects of present social disparities. So, this objection does nothing to discredit *his* use. Part of considering the particularities of his life and its path shows that particular moral details affect how ethicists might judge the enhancement use. The social stratification objection holds only on the condition that he does not have access to Renew but many others do. For the scenario analyzed here, however, this objection loses its force.<sup>34</sup>

Perhaps, though, we can assume that Juan Carlos goes on to lead a successful career as a physician and gains some political power, effectively joining the upper classes. How might he then handle this objection, or what kind of policies might he encourage his politicians to make into law? With these wider social and political goals in mind, Aristotle can still direct us. To measure and cultivate just societies, Martha Nussbaum has used Aristotle's philosophy to develop the capability approach, which evaluates societies by looking at the lives of its citizens and asking what kind of life they can plausibly lead. Often referring to the Human Development Index, capability theorists research whether people have access to basic necessities, medical care, social inclusion, and education—in short, all the goods that are essential to achieving *eudaimonia* (see Nussbaum 1988; 2000b; 2006).<sup>35</sup> Societies that unfairly restrict access to resources, or that do not have equal rights, limit who can flourish and are therefore unjust. Even societies that do have equal rights can be deemed unjust if all opportunities and goods are not readily available to each citizen.<sup>36</sup> Instead of treating enhancements as a mere commodity traded in contracts (Nozick 2013, chap. 7, sec 1) or as a tool to maximize advantages and

opportunities for the least well-off (Rawls 2003, chap. II, sec. 13; chap. V, sec. 46), the capability approach shifts the focus to whether society provides people with the opportunities and goods to flourish. Should the lives of people begin to suffer because of a technology, the capability approach would disclose the mistake and offer suggestions for revision. Making enhancement technologies accessible is a matter of distributive justice, and concerns of distribution are, at best, secondary or contingent objections instead of primary, necessary, or in-principle objections to the technology.

#### 4. Fallacies and Foibles in Critiquing Enhancements

In critiquing Juan Carlos and his use of Renew, many critics often commit the perfectionist fallacy. That is, my argument perturbs them because it fails to solve every problem surrounding an issue, like solving distributive injustice or class stratification. I agree that these are legitimate problems, but they must be welded to the technology to count against it. Otherwise, they can be detached and set aside. Problems like these provide an ethical objection only against the distribution or regulation of a technology, not the development or use of the technology itself.<sup>37</sup> Rhetorically, these secondary objections sometimes correlate with a philosopher who is losing reasons for his side but grasping for post-facto justification to rationalize a gut reaction, an effect sometimes called “moral dumbfounding” (Haidt 2001, 817). To avoid this fallacy, the question about enhancements should be: does moral scrutiny better support the use or abstinence of the enhancement? With Juan Carlos, it should be clear that using Renew is morally permissible (not obligatory or strictly forbidden). Even so, it does not follow that Juan Carlos can use any technology, or even Renew at any time in his life. But sometimes, it might be permissible to use enhancements. And Aristotle could explain why in relation to *eudaimonia*.

A last group of critics, though, would protest that I have failed to understand their point entirely. They object to enhancements because they judge pain, struggle, or existential striving as necessary for moral development, and any technologies that try to mitigate these experiences are suspect. “We lost Eden, and we deceive ourselves when trying to rebuild it with technology,” they might warn. Enhancements remove suffering or enfeeble our development of Sisyphean defiance and John Waynean grit. Yet somehow these critics forget that life, for the foreseeable future, will involve struggle and uncertainty, even with enhancements. They mistake incremental technologies for total banishment of badness and full instantiation of utopia. These critics wish more suffering upon people like Juan

Carlos because they believe his suffering to be meaningful for him. Granted, many in the contemporary academy can remain impartial because they never lived as Juan Carlos, but this strikes me as implausible. Not viewing suffering as an intrinsic harm is far from wishing to prolong it. Renew will not immunize Juan Carlos from life's pains.

My argument is modest. It holds that pharmaceutical cognitive enhancements would be *permissible* to use because they can help Juan Carlos *work toward* living well. The enhancements are not sufficient for a good life, nor are they a broadly necessary condition.<sup>38</sup> They only provide a way to mitigate a few of life's challenges with the long-term goal of flourishing in a uniquely human way. By mitigating some challenges, they transform Juan Carlos from an automaton coping with life's stresses into a person who can better develop himself fully, which leads to more leisure time spent with his family and on self-improvement.

A bolstered argument from these critics might be voiced by Epictetus or Gautama Buddha. Epictetus might advise Juan Carlos to buttress the fortress of his mind and find tranquility in his ultimate control over his thoughts and emotions. "Do not seek to have events happen *as you want* them to, but instead want them to happen *as they do happen*, and your life will go well," he would urge (1983, 13, emphasis added). Relatedly, Buddha may instruct him to follow the Eight-fold Path to eliminate desire, which is the only way to vanquish suffering (1999, 75–76). For existence is inherently painful, and enhancements cannot remedy this. To my Stoic and Buddhist critics, I can only reply that their tokens of a good life might rightly fall under the type of good life, but they do not bind Juan Carlos to adopt their philosophies. Neo-Aristotelians tend toward pluralism because as a proper empiricist, Aristotle would wait to see the results of various approaches to enhancement before deciding definitively. The crucible of everyday existence tests each of our philosophies, and only practical scrutiny and success reveal the worthiness of theories about a good life. Aristotle is happy with the hypothetical, and without evidence to suggest great harms to humanity, we should be too (cf. Foot 1972, 315–16). I welcome Stoics, Buddhists, biohackers, transhumanists, and others to propose alternatives and explore them. Aristotle's dialectical method always begins with the opinions of others because they enrich our conversations, and even if we dismantle the arguments of our friends in the process of debate, philosophers must "honor the truth first" (2002, 1096a15–17). The current literature would benefit from such wide, open, and critical discussions.<sup>39</sup>

## 5. Conclusion

Unique to conversations about human enhancement and medical technologies, we must show courage when interacting with new technologies. We should find the middle path in contemplating the place of technology in our lives and why we may fear it.<sup>40</sup> If the technology can restore people or move them closer toward *eudaimonia*, the fear is unfounded. It would be cowardly to shun technologies due to their novelty or our own discomfort with unfamiliarity. Aristotle asserts that the true test of courage is facing sudden, unforeseen fears. This tests our character itself and not our mere ability to prepare. Yet it would also be vicious to rush toward any trendy technology available, for, as Aristotle observes, even cowards sometimes run toward death to escape pain (2002, 1116a12–15, 1117a17–20). We must reflect on our fears and dissect them. The *eudaimon* person would avail herself of the introspective courage and evaluative honesty necessary to do so.

Moreover, an *eudaimon* life involves moderation, or experiencing appropriate pleasures and pains. It excludes indulgence and prudishness. If people are self-indulgent and neglectful, they usually abuse enhancements to do work last-minute; the enhancement serves irresponsibility and is therefore unvirtuous. And if people center their lives only on work, then they are likely ascetic and detached from aesthetic experiences that give life meaning. We ought to be moderate in both cases and remember that the goal of life is *eudaimonia* and is neither giving everything for one project, honor, or office, nor using illegal and often harmful drugs to achieve mediocrity. Life's bounty includes a cornucopia of pleasures and pains, but Aristotle reminds us that pleasures and pains are only good when attached to worthwhile activities, and worthless activities can corrupt even the most intense pleasures (2002, X.5). *Eudaimonia*, as the best activity of the soul, consecrates whatever helps one to achieve it.

Despite being written 2,500 years ago, Aristotle's virtue ethics can offer substantive moral advice on contemporary and future technologies. His greatest strength is not that he offers the same advice on all technologies. Instead, his holistic, psychological picture of human action and his consideration of the many goods and relationships in human life help us to judge whether human enhancements are actually good for humanity. Like Juan Carlos, we should listen to Aristotle's open and situationally informed advice.

## Notes

For their comments on previous drafts of this project, I owe thanks to Tamler Sommers, Mark J. Cherry, Idit Dobbs-Weinstein, Lenn E. Goodman, John Lachs, and the anonymous reviewers at *Techné*. Remaining mistakes prove only my mismanagement of good advice.

1. When writing “an action is morally permissible,” I do not invoke duties abstracted from particular persons or circumstances. Rather, a more technical but atrociously clunky statement would be: the action “brings a specific person closer to flourishing by contributing to her character at that time in those circumstances.” A moral duty to act might exist, but it is nested in the goal of living the best life humanly possible for that person by cultivating the best character possible in that situation. See Hursthouse 1999, chap. 1; Hursthouse 1995b; van Zyl 2013.

2. When citing and quoting Aristotle, I use Aristotle 2002. Greek references are from Aristotle 1934. And any time I have a particular neo-Aristotelian in mind, I will cite specific works. Additionally, “ethics” and “morality” may be differentiated, perhaps by identifying morality with a subjective set of principles or habits and by contrasting ethics as more social (or as an organized theory about those principles or habits). For my argument, however, they mean nothing other than broad assessment of values like virtue, vice, flourishing, goodness, badness, rightness, and wrongness. “Ethics” and “morality” are interchangeable here.

3. There are also other gaps in research on human enhancement for those using Christian, Confucian, Humean, Nietzschean, or pluralist virtue ethical frameworks. A system based on emotional know-how or revolutionary creativity would give substantively different advice, but would still be “virtue ethics.” See Swanton 2003.

4. While my interpretation of Aristotle can be defended, it is admittedly unorthodox. I do not think Aristotle assumes robust teleology, spooky essences, or untenable biological notions. This places me in stark opposition to critics like Bernard Williams (1985, chap. 3). Rather, I take many of Aristotle’s theories in physics, biology, psychology, ethics, and politics as abstractions from experience resulting from different types of inquiry. So, if a reader is uncomfortable attributing my views to Aristotle, I would gladly adopt a different label. I am more concerned with empirical literature. Recently, philosophers and psychologists turned over every stone in the moral psychology of character and happiness. However, this paper’s argument should be compatible with many theories, as the empirical findings are controversial and also fail to disprove the usefulness of these ideas. The meta-theoretical debates do inform my paper, but their abstractness isolates them from my applied goals. See Doris 2002, which challenges whether character traits even exist; Miller 2014, which develops a mixed character trait account from psychology and philosophy; Miller et al. 2015, which reviews contemporary research on character from many disciplines; and Alfano

2015, which neatly summarizes metaethical and normative debates in different types of virtue theory.

5. When associating with colleagues, friends, and family, virtuous people present themselves truthfully. This means being neither imposturous in misrepresenting our own talents nor deceptive in giving half-answers to avoid issues. Aristotle's concept of "greatness of soul" (*megalopsychia*) demands that we evaluate ourselves and our talents openly and honestly. We should not conceal facts to gain advantages over others. Additionally, where money, awards, and reputation are at stake, the honest and just person not only tells the truth, but feels bad about not telling the whole truth, rectifies mistakes, and clarifies ambiguity. Using unfair enhancements involves levels of deceit that virtuous people could not tolerate (see Aristotle 2002, IV–V).

6. Barbro Fröding worries that futuristic and excessively hypothetical examples in bioethics are unhelpful if they do not resemble current problems (2013, xiv–xv). I share her concern but hope my example is near enough to contemporary medicine to avoid this objection. My rough criteria for plausibility are that the position in this paper can be supported by reasonable arguments, and there are no obvious contradictions in any of the premises.

7. For a way to distinguish between interventions and enhancements, see Tännsjö 2009, 316, 324–26. The advice in this paper applies to any philosophical distinction between normal uses and enhancements—whether it is a professional domain account, normalcy account, or disease-based account. For a review of different accounts of enhancements in relation to normalcy (see Juengst 2000).

8. Contemporary drugs may enhance cognition, but in some cases they lead to sleep deprivation, depressed immune systems, addiction, cardiac irregularity, and seizures. Moreover, while risks of medications remain similar in most patients, there is some evidence to suggest that the more 'normal' (i.e., not deficient) patients are, the less contemporary drugs affect them (see Whitehouse et al. 1997; Raminder 2008; Dubljević 2013, esp. n. 10; Ilieva, Boland, and Farah 2013; Fröding 2013, 72–73).

9. I use "*eudaimonia*" and "good life" interchangeably. Aristotle himself thought that a person's life could not rightly be judged as *eudaimon* until after his death. Also, events toward the end of one's life may destroy *eudaimonia*, even though a person had been *eudaimon* to that point. Aristotle gives the example of Priam, the King of Troy who watched Achilles slay his son and Troy fall (2002, 1100a5 ff.). *Eudaimonia* is, thus, a technical and honorific word that only applies to people who live their *entire* lives as well as possible. In contrast, "good life" might have more subjective connotations, or it might be less final and less concerned with the whole life. I never mean "good life" in these senses. I always mean "good life" in the wider sense that Aristotle used "*eudaimonia*."

10. This point is made briefly in the function argument in Aristotle's *Nicomachean Ethics* (2002, I.7). It also follows the general patterns of Aristotle's *On the Soul*

(1984). Humans are continuous with nature, and humanity's psychological capacities include those of plants (nutrition, reproduction, and growth) and animals (sensation, locomotion, and desire). Humans possess imagination and intellect as well (see 1984, 414a30–415a14, 432a15–435a10). For similar psychological points, see also Aristotle (2002, VI).

11. Christian Miller defines dispositional, global character traits as traits that agents have if and only if they perform the appropriate “trait-sortal” acts in all relevant trait-eliciting circumstances (2003, 387).

12. For Aristotle's defense of *eudaimonia* as the primary good in life, see (2002, I.7). For contemporary neo-Aristotelian accounts of *eudaimonia*, see Hursthouse (1999, Introduction and chaps. 9–10, esp. 202–08). For a broader and more detailed discussion of the link between *eudaimonia* and morality, see Annas 1997 and MacIntyre 1999. On the point of *eudaimonia*, friendships, and political communities, see Sherman 1993 and Cooper 1993.

Critics of my *eudaimonia*-first interpretation of Aristotle might object that I am making Aristotle into a “eudaimonic” utilitarian along the lines of John Stuart Mill's *Utilitarianism* (2001). They would contend that because virtue serves the end of flourishing, it relegates virtue's centrality in Aristotelian *virtue* ethics. Yet, Aristotle emphasizes *eudaimonia* at the outset of the *Nicomachean Ethics*, and he clearly places human flourishing as the goal of human life. Perhaps this makes him consequentialist in some respects; however, “consequentialism,” like many anachronistic labels, fits inelegantly. First, even if *eudaimonia* is the end, many goods and character traits contribute to that end, and Aristotle does not think everything is commensurable to some single scale, value, or good. Second, where many consequentialist ethics focus on actions and try to measure the greatest good for the greatest number of those directly involved, Aristotle has a more diachronic, lifetime-encompassing scope when evaluating *eudaimonia*. Actions can be scrutinized, but only within the framework of a person's character and desire to achieve *eudaimonia* over a lifetime. So, if my interpretation of Aristotle makes him consequentialist, it makes him into a value pluralist with an incommensurable and revisable list of goods necessary for *eudaimonia*, who evaluates a person's entire lifespan in a non-exhaustive, non-dogmatic, particularized, and empirical system, where moral character traits form a necessary component of ethical evaluations, and where flourishing is irreducible to a simple psychological state apart from external goods and moral luck.

Aristotle's virtue ethic remains nonetheless distinct from other thinkers who also have theories of virtue. Immanuel Kant, detailing his theory of virtue in *Metaphysics of Morals*, still emphasizes the role of duty, rationality, and the universal, absolute moral law (1996). Aristotelian ethics is more interested in living well than finding metaphysical or epistemic justification for an absolute, universal law that dictates right action, especially one that can be abstracted from particular people and their circum-

stances. David Hume, describing many virtues in his *Treatise of Human Nature*, is a sentimentalist with a wide notion of what counts as a virtue or vice (2007, esp. bk. 2–3). In contrast, Aristotle’s psychology takes reason as the highest, most important, and chief regulatory capacity, but emotions, intentions, motivations, and dispositions are inextricable from measuring the accomplishments of a virtuous person. Also, the list of virtues and vices offered in the *Nicomachean Ethics*, while not exhaustive, is more focused on the characteristics of the best people in the moral community and how they lead a good life.

It is crucial to label ideas clearly. But because Aristotle helped formulate many debates in ethics, we should not be surprised that we find glints of his theory in many philosophers’ works. Moreover, as I have tried to do here, applied ethicists should lay their views out clearly and let them stand on their own as solutions to the problem at hand. There is no intrinsic goodness in adopting and rigorously defending labels. The debate is better served by diverse views assessing the same phenomenon than by fervent dismissal of views for their awkward fit into metaethical categories.

13. Facts about human nature, morality, and a good life have biological guidelines mixed with normative elements. John Lachs might call these “choice-inclusive facts”: facts that have some range of relevant objective guidelines but which convention also evaluates (1990, 30–31). Many Aristotelians also avail themselves of “response-dependent properties” that have both a mind-independent reality but rely on a properly developed mind to respond to (see Wiggins 1998b; McDowell 2002b). Additionally, this is why some philosophers like Philippa Foot (2002), John McDowell (2002a), and Jonathan Dancy (2004) defend moral concepts (e.g., virtue, vice, and happiness) as thick concepts, where the descriptive and evaluative are inextricable from each other.

14. David Foster Wallace makes a similar point about what we worship in our daily lives (2005). Aristotle also argues that neither wealth nor honor is sufficient for *eudaimonia*, even if they are necessary (2002, 1097a26 ff.).

15. Aristotelians often subscribe to a version of moral particularism (cf. Wiggins 1998b; 1998c; Nussbaum 2000a, esp. 170).

16. For the political approach that grows out of Aristotle’s concern for *eudaimonia*, see Martha Nussbaum (1988, 2000b, 2006).

17. In *Nicomachean Ethics*, Aristotle argues that *eudaimonia* is the best good compared to all others in life because it is the most architectonic, the most complete, the most pleasant, and the highest good of action. It is also uniquely durable, in that it belongs to a person alone, and is self-sufficient, hard to take away, nearly incorruptible once achieved, and more steadfast and stable than scientific knowledge. Moreover, it has cross-cultural components that remain the same. For example, people must have a life of nutrition and growth, sense the outside world, act according to reason, and develop the soul’s virtues. They must seek an appropriate amount of pleasures and honors, experience leisure, and have access to goods like wealth, power, and friends.

These thin features belong to *eudaimonia*, and they serve as a type of objective basis for recognizing a person's life as *eudaimon* or not (2002, I, IX).

However, *eudaimonia* is pluralistic in the sense that its particular expressions will look different for different people. The thickness of the concept of *eudaimonia* comes from particular instantiations of particular people in particular circumstances. This is akin to Aristotle's anecdote about Milo, the wrestler for whom six minae of food is too little, even though the same amount of food would fill another's stomach many times (2002, 1106b1). People need to eat. That is not pluralistic. But the ingredients and amount of the food is pluralistic. It is this narrower and more particularized sense in which Aristotle is a pluralist. In other words, *eudaimonia* is a set goal for moral agents, but the specific tokens of lives and quantities of goods to achieve *eudaimonia* will vary by community. For a more detailed discussion of Aristotle's metaethical commitments, see Hursthouse (1999, chaps. 9–11). See also my n. 12, 13, and 15. For a quick, concrete example of Aristotle discussing how fears differ for each person but how they can also be common, see his discussion on courage (2002, III.7).

18. If, however, Renew did not provide unique effects, or if life-style choices would impact his flourishing more, he would be pressed to try alternatives first. For a similar discussion about lifestyle modifications, see Fröding (2013, 68–70).

19. Fröding reminds us that the natural and behavioral sciences have shown how our biology may limit our cognitive capacities, even for normal people. She recounts recent studies that show that humans are biased, handle information poorly, defer judgment poorly, and can be manipulated through hypnosis, hormones, trans-cranial magnetic stimulation, and priming. Moreover, further experiments suggest that we tend to form false beliefs, leap to conclusions, trust unreliable sources, and make unstable judgments. The problem is that virtue ethics presupposes that we can think rationally, train our emotions, and judge well. If the picture of the human mind is as dismal as some of the sciences suggest, then virtue ethics might be descriptively and normatively implausible or "elitist." Fröding proposes that enhancements could help people overcome these limitations, and virtue ethicists could condone their use (Fröding 2011, 224–26; 2013, chap. 3).

20. I owe this comment on autonomy to an exchange with an anonymous reviewer at *Techné*.

21. Thomas Nagel notes that luck affects four things in our lives: (1) the kinds of people we start out as, (2) the circumstances we face, (3) the antecedent causes that affect us, and (4) the way things ultimately turn out (1992, 28).

22. Aristotle understood that to achieve *eudaimonia* involved luck. Should fortune give you a good family, money, good social standing, and proper capacities, you could lead the best of lives. If not, there might be aspects of the good life that would remain closed to you (see, for example, 2002, 1099a31–b8). There are many things external to a person that affect whether she can cultivate virtue or accomplish *eudai-*

*monia*. This is why the Stoic picture of virtue and flourishing varies dramatically; the Stoics hold both virtue and happiness to be internal, entirely dependent on a single subject's capacities for rationality and control over the self. They and the Epicureans are offering an alternative to the Aristotelian program.

23. Asking someone for help, and helping others, is a theme throughout Books VIII and IX of Aristotle's *Nicomachean Ethics*. He reminds us that friends can save us from mistakes (2002, 1155a12–15). Friends are necessary to an active, *eudaimon* life (2002, IX.9), and they are good in times of fortune and misfortune (2002, IX.11). For example, in a hospital in the case of a severe cranial trauma, it would be difficult for a patient to judge properly or engage in practical reasoning himself, and he would need to rely on friends. When friends, guardians, or loved ones decide for others, they must do so based on what is good for the patient himself and what will lead him toward virtue and flourishing. And depending on the severity of the case, compounding ailments, and changes in condition, one may refuse care because it takes the patient further from *eudaimonia* due to severe pain or sharp loss in quality of life. For more on the parent-child relationship see (2002, VIII.12).

24. Hursthouse continually mentions the need to avoid being "light-minded" in (1991).

25. Were this objection true, Aristotelians would not abide the loss of necessary psychological capacities, such as rationality or empathy. For Aristotle's discussion of sympathy, see (2002, 1143a19 ff.).

26. Bess, however, does leave open the possibility that some enhancements might be permissible, especially on character-based grounds. His position is more nuanced than I have room to entertain here.

27. Outside the scope of this project, but worth mentioning, it might be insightful to compare the moral assessments of Robert Nozick's experience machine (which allows individuals to plug into a machine to lead a simulated dream life indistinguishable from reality), transformation machine (which changes a person to literally become the best person possible), and the results machine (which transforms the world into the best world possible). Each machine represents an enhancement technology that presents different puzzles (2013, 42–45).

28. This response might also answer many of the quandaries Shannon Vallor emphasizes in Vallor 2015.

29. A similar distinction could be made between internal and external goods (MacIntyre 1981, 188ff.). Also, Aristotle remarks that people pursuing money, honors, and pleasures are despised, and that, if we desired and pursued the good instead, we would flourish (2002, 1168b15 ff.).

30. While usually associated with sports and business, goods play an under-acknowledged role in academics. Doing more research, winning grants or publication contracts, getting an endowed chair at a department—these things are goods external

to the intellectual process. Should someone take enhancements in order to attain more of these goods, they do so dishonestly in many cases. Professors or researchers may even jeopardize their own wellbeing in pursuit of these goods. And when ill comes of this, it can taint everything associated with that professor, sully research topics and institutes. While not one of enhancement use, an example of a professor's alleged negative decisions affecting his colleagues and institutes is the 2010 controversy surrounding Marc Hauser. Other ethical violations eventually aided in the shutdown of Harvard's primate research laboratory. For a more detailed discussion of drugs in academics, see Sahakian and Morein-Zamir 2007.

31. For accounts of some of the struggles of women in philosophy, see Alcoff 2003. For contemporary struggles see <https://beingawomaninphilosophy.wordpress.com/>.

32. In 1932, Aldous Huxley formulated many of the original questions concerning genetic enhancement and social engineering in *A Brave New World* (2006). In 1993, Nancy Kress wrote a more contemporary and rigorous literary example of disparate, genetic classes in *Beggars in Spain*. Andrew Niccol's 1997 film *Gattaca* is often discussed too. For a philosophical example, see Singer (2009, 283–87).

33. (cf. Singer 2009, 283). The points here are about genetic enhancement, but a parallel line may be drawn concerning cognitive enhancement.

34. An anonymous reviewer commented that Juan Carlos differs from the socially advantaged and philosophically promising audience that Aristotle had in mind when writing the *Nicomachean Ethics*. I agree with this historical fact. But Aristotle's advice holds for anyone who has the capacities to flourish, and Juan Carlos certainly does. So, yes, the particularities of Juan Carlos's life differ in important ways from the average life of Aristotle's original audience, and this is especially crucial to note in a moral particularist ethic. However, I think Aristotle can advise contemporary people like Juan Carlos, especially when we consider the material progress made by people in the past 2,500 years. Juan Carlos can expect to live nearly 80 years, devote time to things other than work, gain access to resources that elites enjoy, and direct his life according to many of his preferences. Aristotle would certainly be interested in talking with him because Juan Carlos faces similar problems to those the Greeks discussed. In many ways, this project is a test case for how well Aristotle's ancient wisdom can advise a contemporary person on a technology Aristotle himself never addressed.

35. "Politics" and "ethics" were not fully separable for Aristotle. His *Politics* immediately follows the *Nicomachean Ethics*, and the subjects blend into each other frequently.

36. For example, maybe Juan Carlos's daughter, born in America, has the right to education. But America could be criticized for socioeconomic imbalance at the top institutions and the growing amount of student debt for lower classes (see Freedman 2013).

37. Considering bans and regulation introduces further complications. There are few examples of successful bans and regulations of technology in the contemporary world. Technologies are almost always developed by universities, defense projects, independent researchers, or entrepreneurs. The only constraint that may impact the development of something like Renew is the requisite laboratory equipment and technically trained researchers. Yet with faster PCs, economizing equipment, and information sharing via the Internet, these limits are disappearing. A growing biohacker movement conducts biological experiments at home, many on augmenting human biology. For a critical review of biohacking, see Sleator 2016.

38. I have been careful to phrase this in terms of *permissibility* because it would be up to Juan Carlos to weigh the dis/advantages for himself. He lacks any “duty” or “obligation” to take the enhancements, which would imply that he is in the moral wrong if he does not. The moral particularism of Aristotelian virtue ethics yields this result. While *eudaimonia* provides non-subjective, non-relativistic guidelines, the complexity of everyday life means that Aristotelians must yield to lived experience and the advice of the practically wise. Both are epistemically important because it is impossible to predict the many ways virtues can conflict and the directions rules will flex under moral stress. In *On Virtue Ethics*, Hursthouse spends chapters 2 and 3 to demonstrate how neo-Aristotelian virtue ethics can resolve complex dilemmas. Additionally, phrasing things in terms of permissibility distinguishes me from the repugnant conclusions and rhetoric of eugenicists. But this problem is outside the scope of the present project.

39. Although anachronistic, I think Aristotle would criticize Stoics, especially Epictetus, for marginalizing the body and most emotions. Aristotle emphasizes that virtues are dispositions toward action that involve knowledge, emotion, and motivation; and *eudaimonia* depends on the luck of our birth, access to resources, and exposure to bad luck. Aristotle might say that no matter how much Stoics wish we could be fully rational or achieve happiness by controlling our minds alone, this would radically oppose our natural emotional capacities and belie the fact that humans are social and political animals dependent on external goods. He goes as far as to argue, “Those who claim that the man being broken on the wheel and engulfed by great misfortunes is happy, provided he is of good character, are talking nonsense whether they mean to or not” (2002, 1153b19–21). So, Aristotle himself would not be as open to the pluralism I imply here. However, a neo-Aristotelian position like mine is.

40. As Vallor writes, “[h]uman beings must acquire a sense of collective responsibility for intelligently directing the course of our own technomoral evolution—for consciously using technologies to aid us in becoming the practically wise beings that we want to be, beings who can live the kinds of lives we genuinely want to live” (2015, 122).

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