

Spring 2014

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Recommended Citation

I. G. Cohen, *What (if anything) is Wrong With Human Enhancement? What (if anything) is Right with It?*, 49 *Tulsa L. Rev.* 645 (2014).

Available at: <http://digitalcommons.law.utulsa.edu/tlr/vol49/iss3/4>

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WHAT (IF ANYTHING) IS WRONG WITH HUMAN ENHANCEMENT? WHAT (IF ANYTHING) IS RIGHT WITH IT?

I. Glenn Cohen *

It is both a pleasure and honor to participate in this festschrift for Einer Elhauge, who has been a wonderful mentor, colleague, and friend to me and many others. Einer has the kind of mind and career we all aspire to, having been a preeminent voice in no less than four fields—antitrust, contracts, statutory interpretation, and health law/bioethics. It is this last area of his on which I will write. This article will focus on the question of human enhancement. Einer has an unpublished book in progress on the subject, *Re-Engineering Humans—What Limits?*, which has influenced my own thinking on this topic, as have our numerous conversations on the issue. With advances in reproductive technologies, genetic screenings, and concomitant calls for regulation of these things in America the time for discussing these issues has never been better.

This article proceeds as follows: Part I offers a reconstructive taxonomy as to different kinds of enhancements, including incorporating one distinction (as to absolute and positional goods and positive and negative externalities) that has been the focus of Elhauge’s own writing. That said, one *leitmotif* of this Part is that “enhancement” as a category may not be particularly useful, especially if we accept there are not morally relevant differences in the biological vs. non-biological and treatment vs. enhancement distinctions, such that something like tutoring falls into the category of “enhancement.” Part II offers a taxonomy of legal/regulatory interventions. Part III attempts to sketch and interrogate the major arguments offered against human enhancement, including by mapping these arguments onto the taxonomies developed in Parts I and II and showing to which kinds of enhancements they apply and what kinds of legal/regulatory interventions can accommodate some of the concerns they raise. Finally, Part IV focuses on a question that has received surprisingly scant attention: why enhancement is sought. I will argue that one key reason offered for enhancement, to improve the life of the enhanced in the case of enhancement through reproduction, cannot be sustained for reasons that mirror points I have made elsewhere on the opposite issue, the justification for preventing parents from reproducing in ways that “harm” their offspring.¹

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1. I. Glenn Cohen, *Beyond Best Interests*, 96 MINN. L. REV. 1187 (2012) [hereinafter Cohen, *Beyond Best*

I. A TAXONOMY OF ENHANCEMENT

To begin with, I think it useful to map out what form enhancement might take and some key distinctions that may be relevant as we think about what, if anything, the law should say about enhancement.

a. Biological vs. Non-Biological Enhancement:

When people speak about enhancement, many people think of biological enhancement. But it is unclear whether there is anything distinctive, from a moral or legal point of view, between biological enhancements and non-biological enhancements. A good example of a non-biological enhancement discussed in the literature is all forms of learning or training, such as LSAT tutoring for prospective law school applicants.² While this is a line traditionally offered in the literature on enhancement, one might wonder whether learning really is, deep down, actually a biological enhancement—when we learn our brains change, there is no other way to learn except the alteration of our biology. One can parse the matter by suggesting that what we really mean by “biological enhancement” is “enhancement that directly alters our biology rather than alters that biology indirectly,” but as we seek to alter the language to be more precise the attractiveness of this as a moral or legal line to draw becomes, at least to me, increasingly suspect.

In any event, let us imagine, *dubitante*, that this line can really be drawn. Within the non-biological category, some non-biological enhancements will take the form of “add-ons” rather than alterations. For example, the new Google Glass might be thought of as a kind of enhancement that allows the user to see things and access information that he might not already have access to. At some point, the line between a non-biological enhancement versus an adjunct technology will be blurred. I do not think there is a single right answer as to where to draw that line; instead such line-drawing heavily depends on the particular moral concern motivating the inquiry. For instance, if the issue is inequitable access, then adjuncts—to nerd-out for a bit, the visor worn by Lt. Geordi La Forge in *Star Trek: The Next Generation* that allows him to see more of the E-M Spectrum—and true enhancements—the artificial eyes Geordi wears in the *Star Trek* Films that let him do the same—seem indistinguishable. By contrast, if the objection relates to the perfection of the human body and theological or non-theological objections to mucking around with it, the distinction might prove important with adjunct technologies posing less of a concern.

One interesting implication of these distinctions is that the regulatory regime that

Interests]; I. Glenn Cohen, *Burying Best Interests of the Resulting Child: A Response to Professors Crawford, Alvaré, and Mutcherson*, 97 MINN. L. REV. 1 (2012); I. Glenn Cohen, *Rethinking Sperm Donor Anonymity: Of Changed Selves, Non-Identity, and One Night Stands*, 100 GEO. L.J. 431 (2012) [hereinafter Cohen, *Rethinking Sperm Donor Anonymity*]; I. Glenn Cohen, *Regulating Reproduction: The Problem with Best Interests*, 96 MINN. L. REV. 423 (2011) [hereinafter Cohen, *Regulating Reproduction*]; I. Glenn Cohen, *Intentional Diminishment, the Non-Identity Problem, and Legal Liability*, 60 HASTINGS L.J. 347 (2008) [hereinafter Cohen, *Intentional Diminishment*].

2. To his credit, Elhauge in his work puts pressure on the question of whether biological and non-biological enhancements are different. For another prominent writer in the field with very different views on enhancement from Elhauge and I, who *also* aims to show that biological and non-biological enhancement raise similar issues, see generally MICHAEL J. SANDEL, *THE CASE AGAINST PERFECTION: ETHICS IN THE AGE OF GENETIC ENGINEERING* (2007).

currently exists focuses quite a lot on biological enhancement and almost not at all on non-biological enhancements. Google Glass, and many other possible technological enhancements, falls flatly outside of the regulation of FDA or any other agency that would give serious thought to its enhancement capabilities. By contrast, attempts to alter our brains or our bodies at the biological level are regulated by FDA rules about drugs and devices, rules about the use of stem cells in certain states or countries or some institutions, and the tort system on the back end through medical malpractice. Drawing the line this way might make a lot of sense if we thought that biological enhancements were particularly dangerous, raised particularly difficult ethical practices, etc. Perhaps there is something about the invasiveness of drugs and implantable devices, or their nature as credence goods that might lead us to believe this is (in general true) on the safety side. On the ethics side, though, it seems to me that Google Glass and its like is just as likely to have profound effects on our society raising difficult ethical questions (relating to surveillance, what it means to constantly be networked)³ than, for example, the use of Human Growth Hormone. To the extent the category of biological enhancements stirs up more worry for us in terms of pre-theoretical intuitions on the subject, I suspect that this is because of features that *some* pertinent kinds of biological enhancements share and many non-biological ones (again assuming such a line is tenable) do not, such that what is ethically significant is not that an enhancement is biological but that it shares one of these more atomistic features, of the kind discussed below.

Within the category of biological enhancements, we can usefully distinguish:

i. Genetic enhancements vs. non-genetic biological enhancements

In the second category would be getting breast augmentation or reduction, using Ritalin or another ADHD medication for help on the SATs, using beta-blockers before an Olympic pistol shooting competition, and, in a memorable scene in the science fiction film *Gattaca*, lengthening Vincent's legs by breaking the bones and stretching them.⁴ As I will discuss below, altering our genome directly is still primarily hypothetical, but producing certain genes through selection is already commonly done. Why should genetic enhancements be singled out? I am not sure they should, but one possibility is that they are thought of as more "fundamentally us" in some way; another possibility is that they may be passed on to future generations (but only if germ-line alterations are done); finally, it is possible that the genetic vs. non-genetic question is actually serving as an inexact proxy for the reversibility question discussed below, though genetic alterations will not exhaust the universe of irreversible changes and there may be genetic changes that *are* reversible.

3. I. Glenn Cohen, *The Ethicist's and the Lawyer's New Clothes* (Feb. 11, 2014), <https://www.radcliffe.harvard.edu/event/2014-i-glenn-cohen-lecture>.

4. *GATTACA* (Columbia Pictures 1997). I am indebted to Elhauge for the pistol shooting example, which relates to Kim Jong Su, the second best pistol shooter in the 2008 Olympics, who was stripped of his bronze medal when he was shown to have used a beta-blocker to try and improve his performance. Matt Scott, *Olympics: Korean Double Medalist Expelled for Drug Use*, *GUARDIAN* (Aug. 15, 2008), <http://www.theguardian.com/sport/2008/aug/15/olympics2008.drugsinsport>; *2 Olympians Fail Drug Test at Beijing Games*, *NBC NEWS* (Aug. 15, 2008), http://www.nbcnews.com/id/26211139/ns/beijing_olympics-beijing_olympics_news/t/olympians-fail-doping-test-beijing-games/#.UjyHDGSc4RY.

A separate set of distinctions has to do with whom is doing the enhancing and when.

*b. Choosing for Ourselves vs. Choosing for Others Who Cannot Choose for Themselves:*⁵

One could choose to enhance oneself, for example choosing to take anabolic steroids or to get cosmetic surgery. One could also choose to enhance others who cannot make a choice for themselves. Children are the most important members of this latter category. Here we should draw a further distinction when it comes to choosing for others:

i. Enhancing after birth vs. enhancing before birth

As will become more clear in later Parts of this article, it may matter for ethical analysis whether enhancement takes place after versus before birth. An example of enhancement of one's child after birth would be providing him or her with Human Growth Hormone to help him or her grow taller. Among pre-birth interventions we should draw still another distinction:

1. Enhancing by selection vs. enhancing by manipulation of already fertilized embryos or implanted fetuses

In enhancing by selection, one tries to influence the traits one's child will exhibit (i.e., its phenotype) by making decisions about the child's genotype. One good example of this is the "shopping" done for potential sperm donors by single or lesbian women seeking to reproduce and by egg brokers catering to other uses of reproductive technologies. Sperm banks frequently offer catalogues selling certain features that prospective "customers" will find desirable, such as intelligence and height, as might egg brokers.⁶ A different kind of selection would be in choosing for implantation between numerous pre-embryos that prospective parents have already fertilized as part of In Vitro Fertilization.⁷

Both of these are to be contrasted with post-conception but pre-birth manipulation. Though mostly hypothetical at the moment, this could take the form of genetic exploitation of an already fertilized embryo and/or surgical interventions on already implanted

5. Hypothetically we could imagine imposing enhancements on adults who object, for example, to "hacking the brain" of criminals to increase their impulse control or moral judgment. This is not commonly discussed in the literature and, even more so than the other possibilities, is truly science fictional, so I will put it to one side. The closest analogue I can think of that is sometimes discussed is involuntary drug regimens imposed on carriers of certain forms of Tuberculosis B. See Josephine Gittler, *Controlling Resurgent Tuberculosis: Public Health Agencies, Public Policy, and Law*, 19 J. HEALTH POL. POL'Y & L. 107, 139 (claiming that "compulsory TB control laws" could be crafted to respect federal statutory and constitutional requirements, making clear that the voluntary public health response to HIV cannot work to combat TB); Lawrence Gostin, *Tuberculosis and the Power of the State: Toward the Development of Rational Standards for the Review of Compulsory Public Health Powers*, 2 U. CHI. L. SCH. ROUNDTABLE 219, 222 (1995) (referring to nineteenth-century compulsory measures taken to combat tuberculosis).

6. See, e.g., Rene Almeling, *Gender and the Value of Bodily Goods: Commodification in Egg and Sperm Donation*, 72 LAW & CONTEMP. PROBS. 37, 48-56 (2009); Martha Ertman, *What's Wrong with a Parenthood Market? A New and Improved Theory of Commodification*, 82 N.C. L. REV. 1, 27-31 (2003).

7. See, e.g., Cohen, *Intentional Diminishment*, *supra* note 1, at 347.

fetuses in order to achieve desired traits or avoid undesired ones.⁸

c. Enhancements Compatible with Expanding Life Plans vs. Enhancements That Will Limit Options

Some enhancements are “swiss army knives” in that they can improve the prospects for a child, whatever the child chooses to do with his life. Improvements in intelligence and disease resistance fit comfortably here. By contrast, other enhancements will serve to close off certain life plans while they improve the chances in others. An enhancement in height may improve the chance that a child will play in the NBA, but decrease the chance that they will be able to serve on a submarine. The same is true regarding non-biological enhancements. Helping a child improve the skill level at which he or she reads by making her practice is an enhancement that is compatible with many life plans in our society. By contrast, making a child practice piano for five hours a day will foreclose developments of other skills (sports, social, etc.) and may limit options in the future.

Again, this is best thought of as a continuum, with a sense of how many options are being foreclosed for the sake of a particular enhancement.

Another set of distinctions relates to how much enhancement is taking place and of what kind:

d. Reversible vs. Irreversible Enhancement:

This distinction is actually more of a continuum. On the one extreme, genetic enhancement through selection generates what we would think of as an irreversible enhancement. If one’s genes are made better by the choices of genetic material to be used in reproduction by one’s parent(s), that genotype is set and cannot be altered in the future, at least given our current technology. On the other extreme, there are enhancements that are easily undone. For example, an adjunct like an artificial limb that could be removed and re-attached at will. In between are alterations that might be undone at significant costs or perhaps “re-done.” A patient who gets a rhinoplasty (aka “nose job”) and is dissatisfied with his new nose could, in theory, get the doctor to try to reconstruct the old nose, but it is unclear whether it would be exactly the same as the prior version.

Notice the way this interfaces differently with self-enhancement versus enhancing one’s children. In self-enhancement, irreversible enhancements raise concerns that are paternalistic, that one will make poor decisions one will later come to regret and cannot undo. By contrast, in enhancing others’ irreversibility means that the choices made for children are ones that those children cannot undo. In this way it bears a family resemblance to other kinds of body alteration of children, such as male circumcision or female genital cutting, to which some object that it should be the child’s choice to alter their body in this way that cannot be undone.

A further distinction has to do with how enhancement relates to particular base-

8. See, e.g., Dan W. Brock, *Shaping Future Children: Parental Rights and Societal Interests*, 13 J. POL. PHIL. 377, 395-96 (2005); Cohen, *Intentional Diminishment*, *supra* note 1, at 347-48; Kirsten Rabe Smolensky, *Creating Children with Disabilities: Parental Tort Liability for Preimplantation Genetic Interventions*, 60 HASTINGS L.J. 299, 332-34 (2008).

lines.

e. Enhancement vs. Treatment (?):

Some would draw distinctions between “treatment” to correct disease or disability as opposed to enhancement to make people “better than well.” Some defend this as an important distinction. For example, Norman Daniels defines the distinction in relation to “species typical” functioning, and thinks we have obligations to fund treatments that ensure that level of functioning but not what goes beyond it, though he offers it primarily for an account of what we owe one another.⁹ Many are skeptical of the tenability of this distinction, including Elhauge and I,¹⁰ and think that those who defend the distinction are falling prey to a classic baseline problem. If one was trying to give a sociological account as to why this line comes up again and again in the literature despite its problematic nature, one account may have to do with the ends of medicine and the organization of the medical professions. Physicians and nurses for a very long period of history viewed themselves as the curers of disease and caretakers of the diseased, not as part of the profession aimed at improving wellness more generally; more recent interventions like the WHO definition of “health” as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”¹¹ may slowly be pushing the other way. In the early history of medical practice when health care was more likely to be harmful than helpful, limiting our focus to curing disease rather than promoting wellness may have made good prudential sense, but that is a prudential not a deep ethical rule and one that ought to shift with developments in health care, and in the future, with developments in the effectiveness and risks of enhancement.

There is also a more subtle version of this distinction that is sometimes drawn in the literature:

- i. Enhancements to the upper bounds of what people already have vs. enhancements that add beyond human nature as it now stands

Under this distinction it would be permissible to enhance one’s height to that of the tallest individual in one’s society, but no further. Similarly, it would be permissible to extend one’s life to the longest reported length, but no further. If I try to understand the true motivation for this view, which I must confess has always struck me as rather strange, I think it is one of three things: (i) Given that there currently exists human beings who have the trait in question, by seeking it for oneself one is indisputably remaining a “human being” as we now think of that concept. If, by contrast, one sought to live to 1,000 years old or grow wings, or something else that is currently not possessed by

9. NORMAN DANIELS, *JUST HEALTH: MEETING HEALTH NEEDS FAIRLY* 149 (2008). For another recent defense of this line see Dov Fox, *Parental Attention Deficit Disorder*, 25 J. APPLIED PHIL. 246, 253 (2008).

10. See, e.g., Cohen, *Beyond Best Interests*, *supra* note 1, at 1225-29; Frances M. Kamm, *Is There a Problem with Enhancement?*, 5 AM. J. BIOETHICS 5, 6-9 (2005) (critiquing an argument by Michael Sandel premised on the wrongfulness of desires for mastery and failure to be open to the unbidden in enhancement through the example of a scientist who sought to cure blindness not out of compassion but out of a desire for mastery, and suggesting that we do not think him to have acted immorally).

11. World Health Organization, *Preamble to the Constitution of the World Health Organization*, as adopted by the International Health Conference, New York, June 19-22, 1946 (signed on July 22, 1946 by the representatives of sixty-one States).

humans one might cease to be human, which on this view seems to matter.¹² (ii) There is a certain unfairness in terms of what our genetic endowment as individual human beings looks like—a certain amount of “moral luck.”¹³ Since the draw is random, it does not seem unfair (if anything it might be fairness enhancing) to “draw again” (to continue with the poker metaphor) from the same deck, the genetic endowment of humanity, and improve the hand we hold. By contrast, it feels more like cheating to seek genetic traits not held by any current human being, more like taking cards from a different deck and smuggling them in. (iii) This principle establishes a “ceiling effect,” which partially solves a problem I will discuss just below relating to positional goods.

f. Enhancements for Absolute vs. Positional Goods:

This is a distinction that Elhauge’s work has focused on (he uses the terms transferred benefits and shared costs). Some goods (such as being tall) are beneficial primarily in a positional sense—they are desirable to have only because others lack them. By contrast, other goods—for example immunity to disease—are primarily absolute goods, in the sense that one would want to have the enhancement even if everyone were to have it. In a strange way this mirrors one of Kant’s formulations of the Categorical Imperative, that one should “[a]ct only according to that maxim whereby you can at the same time will that it should become a universal law.”¹⁴ Absolute goods are desirable even if they became universally available, while positional goods are desirable only because others are deprived of them. Most traits, though, are mixes of positional and absolute goods, in that they are sought to confer positional advantage and because they have absolute benefit. Indeed, determining just how much a particular trait is valued for positional as opposed to absolute value may be quite difficult (and/or costly).

* * *

While not completely exhaustive, together this taxonomy lets us fully describe and categorize any enhancement:

For example, use of Ritalin for academic testing performance when one does not have a diagnosis of ADHD is an enhancement (not treatment) that is biological, non-genetic, chosen for oneself, reversible, within the bounds of what human beings currently possess, and is typically used primarily to secure a positional good (better performance on the test relative to others, though one could also imagine it being used for a test where everyone who passed a baseline got in, which would be more absolute).

By contrast, a single woman who seeks a sperm donor with a very high IQ is seeking an enhancement (not treatment) that is biological, genetic, chosen for someone else, the enhancement is done before birth, by selection, the enhancement is compatible with multiple possible life plans, irreversible, within the bounds of what human beings currently possess, and secures the user a mixed good that is of both positional and absolute

12. We could take the distinction further still and distinguish manipulating the intensity of a trait present in human beings (height, longevity) versus adding traits that are not possessed by humans to any extent at the moment (e.g., wings).

13. Eric Rakowski, *Who Should Pay for Bad Genes?*, 90 CALIF. L. REV. 1345, 1348, 1350-67 (2002).

14. IMMANUEL KANT, *GROUNDING FOR THE METAPHYSICS OF MORALS* 30 (James W. Ellington trans., 3d ed. 1993) (originally published 1785).

benefit.

Such fully fleshed out classifications of individual cases allow us to examine whether a particular enhancement is or is not problematic in a way that should motivate legal/regulatory action.

II. WHAT POSITION(S) MIGHT THE LAW TAKE ON ENHANCEMENT?

The law might take quite different approaches to enhancement. Importantly, as Part I showed, because enhancement is not a unitary phenomenon, the law might adopt *different* responses to different categories of enhancement.

To paint with a broad brush, we can categorize potential legal (or if you prefer “legal/regulatory”) approaches as follows:

a. Prohibit/Permit:

i. Permit

No state sanction is applied. In such a situation the state still faces a series of second order rule choices:

1. Mandate?

Theoretically instead of just permitting the enhancement, the state could make it mandatory. If vaccination is considered a kind of enhancement (as I think it should be, though others might disagree), this is the approach actually adopted in that domain, or at least it is made a precondition to attending elementary school, etc., subject to some exceptions.¹⁵ The state could also do this more surreptitiously, by adding enhancement biologics to drinking water the way some municipalities add fluoride.

2. Subsidize?

Whether mandated or merely permitted, the state faces a second decision as to whether to subsidize the enhancement or require individuals to pay for them out-of-pocket if they want it. That subsidization could in turn take the form of a true subsidy or something like making the enhancement a mandated benefit for insurance.¹⁶ Again, vaccination presents a good example. Many states require insurers to cover common vaccines as part of health insurance or themselves provide vaccines for free.¹⁷

15. While no federal vaccination laws exist, all fifty states require certain vaccinations for students entering public elementary schools. *State Vaccination Requirements*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/vaccines/vac-gen/laws/state-reqs.htm> (last updated Sept. 30, 2011).

16. In 1999, there were 1,260 such mandates imposed by U.S. states, including mandates requiring that insurers cover particular benefits such as in-vitro fertilization. BARRY R. FURROW ET AL., HEALTH LAW 479-81 (2d ed. 2000); I. Glenn Cohen, *Protecting Patients with Passports: Medical Tourism, Medical Tourism and the Patient-Protective Argument*, 95 IOWA L. REV. 1467, 1544 (2010) [hereinafter Cohen, *Medical Tourism*].

17. See, e.g., Grace M. Lee et al., *Gaps in Vaccine Financing for Underinsured Children in the United States*, 298 J. AM. MED. ASS'N 638, 641 (2007) (discussing states that do and do not require insurers to cover basic vaccinations for children).

3. Tax?

The state could tax enhancements separately from other goods and services. If, as discussed below, enhancements produce externalized costs the state could tax it as a Pigouvian tax.¹⁸ It could also tax it in order to fund a redistributive system aimed at trying to enhance the lives of those who choose not to enhance. Finally, it could tax it as a “vice tax” like tanning beds,¹⁹ which, come to think of it, might be thought as a kind of enhancement if tans improve our attractiveness!²⁰

4. Nudges and Other Choice Architecture Techniques

In the spirit of Sunstein and Thaler’s “libertarian paternalism,” we might also regulate enhancement through nudges and other forms of choice architecture—measures that “influence behavior while also respecting freedom of choice” like setting default rules, or presenting options in certain ways.²¹ For example, we could add “speed bumps,” such as psychological prescreening or waiting or cooling off periods, similar to what is done with adoption, surrogacy, sex reassignment, and I have discussed, as possibilities for organ markets.²²

ii. Legally Prohibit

The state could make a particular enhancement illegal. For example, it could make it a criminal offense to buy, sell, or use anabolic steroids, as does the United States²³ It could instead apply a civil fine. It could also put a cap on usage (e.g., permit individuals to enhance to X level but not $X + 5$).

In addition or as an alternative, at least in theory, we could also adopt one of a series of “disgorgement” regimes. For reversible enhancements, the state could take them away. For irreversible enhancements, the state could, to be fanciful, adopt the approach from one of literature’s most effective ruminations on enhancement and meritocracy—Kurt Vonnegut’s “Harrison Bergeron”—where this is the regime chosen as to existing better-than-average traits possessed in the society and not just enhancements. In Vonne-

18. Named for the English economist Arthur Cecil Pigou, who is credited with the idea; a Pigouvian (or “Pigovian”) tax is used to correct a negative externality—for example, having the marginal tax rate for a unit of pollution reflects the negative externalities caused on a per-unit basis. See ARTHUR C. PIGOU, *THE ECONOMICS OF WELFARE* 192-93 (4th ed. 2002). For a discussion of the various uses of Pigouvian taxes in pollution, sin taxes, and other areas, see Alex Raskolnikov, *Accepting the Limits of Tax Law and Economics*, 98 CORNELL L. REV. 523, 536-37 (2013).

19. Patient Protection and Affordable Care Act, 26 U.S.C. §§ 5000A-B (2012).

20. Of course where a tax becomes a penalty is a fine line. Moreover, taxes may have a role in registering moral sanction, depending on the way the tax is “marketed.” The “individual mandate” of the Affordable Care Act is a good example of how this terrain is slippery and subject to reframing. Nat’l Fed’n of Indep. Bus. v. Sebelius, 132 S. Ct. 2566, 2600 (2012).

21. Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism is Not an Oxymoron*, 70 U. CHI. L. REV. 1159, 1159-60 (2003); see generally RICHARD THALER & CASS SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH AND HAPPINESS* (2008).

22. E.g., Cohen, *Regulating Reproduction*, supra note 1, at 470 (citing N.H. REV. STAT. ANN. § 168-B:16 to 18 (2010)); I. Glenn Cohen, *Regulating The Organ Market: Normative Foundations for Market Regulation*, 77 L. & CONTEMP. PROBS. (forthcoming 2014) [hereinafter Cohen, *Regulating the Organ Market*]; see Liza Khan, *Transgender Health at the Crossroads: Legal Norms, Insurance Markets, and the Threat of Healthcare Reform*, 11 YALE J. HEALTH POL’Y L. & ETHICS 375, 407 (2011).

23. See 21 U.S.C. § 844 (2014).

gut's imagined 2081:

[E]verybody was finally equal. They weren't only equal before God and the law. They were equal every which way. Nobody was smarter than anybody else. Nobody was better looking than anybody else. Nobody was stronger or quicker than anybody else. All this equality was due to the 211th, 212th, and 213th Amendments to the Constitution, and to the unceasing vigilance of agents of the United States Handicap- per General.²⁴

In this dystopic picture, George, whose intelligence is "way above normal, had a little mental handicap radio in his ear" that he is "required by law to wear" at all times and every "twenty seconds or so, the transmitter would send out some sharp noise to keep people like George from taking unfair advantage of their brains."²⁵ A ballerina performing on television must have been "[e]xtraordinarily beautiful, because the mask she wore was hideous. And it was easy to see that she was the strongest and most graceful of all the dancers, for her handicap bags were as big as those worn by two-hundred pound men."²⁶ And so on.

Among the difficult questions here is how good the legal system would be at detecting prohibited enhancements? Take the (apparently) significant misuse of ADHD drugs by college students without diagnoses seeking to improve performance. Could colleges do a better job of detection, that is, is the current level of detection the result of lack of resources/skill, a desire to "not know," or some combination of the two? The costs of detection and what headway one can make in detecting enhancements will likely vary significantly by type of enhancement. Biological enhancements to improve memory and enable card counting at casinos (to use just one example) might be harder to detect than, say, using Google Glass for the same purpose.

iii. Do Not Legally Prohibit but Impose Moral Sanction

The state could marshal some of its moral resources to sanction the practice. The state could make winners of contests that used enhancement return their awards, such as the International Olympic Committee did in the pistol competition discussed above.²⁷ It could bar the use of enhancements as entry to competitions that provide honorifics. The current practice of sports is a good example, but similar rules could be adopted for university admissions, orchestral performances, etc.²⁸ Again, detection would pose some

24. Kurt Vonnegut, Jr., *Harrison Bergeron*, in WELCOME TO THE MONKEY HOUSE 7 (1968).

25. *Id.*

26. *Id.* at 10. The state could also adopt many of the kinds of regulations it already has in place for drugs and devices, such as requiring testing for safety and efficacy and controlling the claims made through promotion of the enhancements.

27. See Scott, *supra* note 4.

28. Of course, some measures aimed at moral censure such as government billboards might raise First Amendment concerns. Cf. Dov Fox, Note, *Racial Classification in Assisted Reproduction*, 118 YALE L. J. 1844, 1897-98 (2009).

issues, as has been the case with steroid use in professional sports.

III. WHAT (IF ANYTHING) IS WRONG WITH ENHANCEMENT?

With these distinctions in mind, we are now ready to map the possible objections raised to enhancement and how they relate to the various forms of enhancement and various legal regimes.

a. *Safety/Risks to the Enhanced*

Some enhancements may pose risks for the individuals who seek to use them or those on whom they are imposed. This is particularly true as to genetic enhancements and some biological enhancements such as anabolic steroid use.²⁹ Some biological enhancements, such as Ritalin use, may pose only minor risks, such as stomach pain and headache.³⁰ In many cases, we are in a situation of Knightian uncertainty as to risks—where we are uncertain as to the distribution of probabilities and not just where within a probability distribution a risk falls.³¹ Other enhancements, particularly non-biological ones—such as SAT tutoring—pose no safety risks, although they are also not costless: students pay for the services and invest time in them.

Of course, many enhancements also promise benefits, the key reason why they are being pursued. When individuals are choosing enhancements for themselves, this justification for legal intervention is thus paternalistic. When choosing for children, the justification for intervention is more akin to reasoning in family law where “[t]he state appropriately steps in, as *parens patriae* protector of the welfare of these non-autonomous persons, to act in their behalf, choosing for them” when their welfare is threatened by parental action.³² For those who believe in the cogency of the treatment-enhancement line, the more treatment-like the intervention sought by the parents, the more legal reasoning about the case can draw from court decisions on health care decision-making for

29. See, e.g., Sheryl Gay Stolberg, *The Biotech Death of Jesse Gelsinger*, N.Y. TIMES, Nov. 28, 1999, <http://www.nytimes.com/1999/11/28/magazine/the-biotech-death-of-jesse-gelsinger.html?pagewanted=all&src=pm> (describing the well-known 1999 case of Jesse Gelsinger, who died while undergoing experimental gene therapy at the University of Pennsylvania that attempted to correct for a genetic defect that prevented him from correctly metabolizing ammonia); *Anabolic Steroids*, NAT’L INSTS. OF HEALTH, <http://www.nlm.nih.gov/medlineplus/anabolicsteroids.html>; *Anabolic Steroids*, MERCK MANUAL HOME HEALTH HANDBOOK, http://www.merckmanuals.com/home/special_subjects/drug_use_and_abuse/anabolic_steroids.html (discussing risks of steroid use) (last updated Jan. 2009). But see Anjan Chatterjee, *Cosmetic Neurology: The Controversy over Enhancing Movement, Mentation, and Mood*, 63 NEUROLOGY 968, 970 (2004):

While safety concerns are undoubtedly real, they are unlikely to have much of a practical impact. The incentives to develop new treatments with minimal side effects are in place. This is not to say that unexpected effects might not be encountered. But, in general, newer medications will continue to be safer, and the safer the medication, the less relevant this concern.

30. *Methylphenidate*, NAT’L INSTS. OF HEALTH, <http://www.nlm.nih.gov/medlineplus/druginfo/meds/a682188.html> (last visited Nov. 7, 2013).

31. See generally FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT (1921); see also Chris William Sanchirico, *Optimal Tax Policy and the Symmetries of Ignorance*, 66 TAX L. REV. 1, 56 (2012).

32. James G. Dwyer, *The Child Protection Pretense: States’ Continued Consignment of Newborn Babies to Unfit Parents*, 93 MINN. L. REV. 407, 411 (2008); see Cohen, *Regulating Reproduction*, *supra* note 1, at 435-36.

children, including case law on experimental therapies.³³

I will note here, though not elaborate in detail, one wrinkle as to (at least) pre-birth enhancement done through selection, and perhaps some forms of pre-birth enhancement done by radical genetic manipulation. As I have argued elsewhere, we cannot be said to harm someone through reproduction if they are given a life worth living, if in order to “prevent” that “harm” we would have to bring someone else into existence in their place.³⁴ This is the mistake of Best Interests of the Resulting Child (“BIRC”) reasoning I have attacked elsewhere.³⁵ To illustrate, suppose we are discussing an attempt to effectuate an enhancement of offspring by selection of gametes. Suppose a single woman seeks a sperm donor with a high IQ, or other desired trait, for reproduction. Suppose, for some reason, that using that donor sperm also carries with it an increased risk of some disadvantageous condition, like a clubbed foot or paraplegia. Has the woman harmed the child by pursuing that enhancement? Even if it is conceded that the child is, on balance, worse off with the high IQ and the disadvantaging condition as compared to a child born from a different sperm donor who would have had neither trait, that does not mean this child was harmed.³⁶ So long as I am given a life worth living, I am not harmed if my counterfactual to existing was not existing at all and instead another (genetically speaking) child being created in my place. For that reason, when enhancement is accomplished by selection, *we cannot say that preventing that enhancement can be justified for safety reasons to prevent harm to the resulting child.* Now there may be other theories as to why we want to prevent the creation of children with less-good-welfare than might have been possible—theories of non-person-affecting principle approaches or reproductive externalities that I have canvassed and critically evaluated elsewhere.³⁷ One problematic implication of such theories that I have highlighted in other work, though, which may be particularly salient here, is that these theories may ultimately justify state-mandated enhancement, something anathema to those opposing human enhancement that may make them suspect as ways of rehabilitating the safety argument.

b. Distribution and Inequality

When enhancements are available for purchase, there is a risk that they will lead to distributional injustice and worsening inequality;³⁸ or, as Leonard Cohen poetically put it

33. *E.g.*, *Custody of a Minor*, 379 N.E.2d 1053 (Mass. 1978); *In re Hofbauer*, 393 N.E.2d 1009 (N.Y. 1979); *Children’s Soc’y of Peel Region v. B. (C.)*, [1988] W.D.F.L. 794 (Ont. Prov. Ct. Fm. Ct. Div.); see I. Glenn Cohen, *Medical Tourism for Experimental Therapies: An In-Depth Exploration of Stem Cell Therapy Tourism*, in *PATIENTS WITH PASSPORTS: MEDICAL TOURISM, ETHICS AND LAW* (forthcoming 2014).

34. See Cohen, *Beyond Best Interests*, *supra* note 1; Cohen, *Regulating Reproduction*, *supra* note 1; Cohen, *Rethinking Sperm Donor Anonymity*, *supra* note 1.

35. See Cohen, *Beyond Best Interests*, *supra* note 1; Cohen, *Regulating Reproduction*, *supra* note 1; Cohen, *Rethinking Sperm Donor Anonymity*, *supra* note 1.

36. For this reason the child cannot be said to be harmed even if the pursued enhancement does not succeed, so the clubbed foot obtains but not the intelligence in the example.

37. See Cohen, *Regulating Reproduction*, *supra* note 1; Cohen, *Beyond Best Interests*, *supra* note 1.

38. *E.g.*, Dov Fox, *The Illiberality Of ‘Liberal Eugenics’*, 20 *RATIO* 1, 17 (2007) [hereinafter Fox, *The Illiberality of ‘Liberal Eugenics’*] (noting the worry: “that limited access to high-priced enhancement technologies confers genetic advantages only on offspring whose parents can afford them, thereby exacerbating inequality and unfairness in competitions for scarce benefits and prized roles. ‘The ability to buy not only tools and opportunities to cultivate one’s native capacities, but also to buy new or enhanced capacities themselves,’ argues Erik Parens, ‘would make some individuals doubly-strong competitors for many of life’s goods.’”). *Id.* (quot-

“[e]verybody knows the fight was fixed/ The poor stay poor, the rich get rich/ That’s how it goes/ Everybody knows.”³⁹ This risk cuts across essentially all forms of enhancements—from cosmetic surgery to SAT tutoring. It is perhaps a bit more salient as to enhancement for positional goods, since they are desirable precisely because they *produce* increased inequality, but the point holds for enhancement for absolute goods as well—these are enhancements which give to the receiver benefits that are objectively valuable, but in so doing they very often will also improve her status relative to others. Also relevant in this analysis is the marginal cost of the enhancement (both in monetary and health terms); the lower the cost the less it provides advantages to those who can afford it, and perhaps the less valued it would be for “positional” purposes since everyone can access it—that said, perhaps the more salient the problem of “coercion of voluntary enhancement” discussed below.

One intervention that combats this concern is to prohibit the enhancement in question. The state could also diminish this concern by subsidizing the enhancement in question. The state could require all insurers to cover Lasiks eye surgery, Ritalin, (and to be provocative) breast augmentation, and anabolic steroid use. It could also require that all SAT tutoring companies engage in need-blind admission into their programs and produce a system of fee waivers for qualifying students who cannot afford entry similar to what is done with college admission fees. In that latter case the subsidy would be progressive and only available to those who show need, a slightly different approach to avoiding inequality.

Such subsidized enhancements could, in theory, either be voluntary “free for the taking” or mandated. The latter would be more controversial in that it would raise libertarian concerns about interference with freedom over one’s body. For this reason, mandatory enhancements are likely to be disfavored, but one area where that preference against them may run into trouble is the limited category of biological enhancements that must be done pre-birth or in early childhood. In such a case, parents who refused to enhance their child may set that child back relative to his peers in a way that is not chosen by the child and may not be correctable later on. Here, to me, the most compelling analogies are to early childhood education and the case law as well as political theoretical discussion of when parents can choose not to enroll their children in schools.⁴⁰

A point that is sometimes overlooked is that enhancement can also be a way of *overcoming* distributional injustice and *reducing* inequality. As Rakowski notes after canvassing leading political theories, for many theories “those who are better off owe redress to those whose genes substantially curtail their opportunities” and that “[r]edress may take the form of special education, medical assistance, or welfare benefits if they are unable to obtain employment.”⁴¹ Enhancement enables a different kind of redress that

ing Erik Parens, *Justice and the Germline*, in *ENGINEERING THE HUMAN GERMLINE: AN EXPLORATION OF THE SCIENCE AND ETHICS OF ALTERING THE GENES WE PASS TO OUR CHILDREN* 122, 123 (Gregory Stock & John Campbell eds., 2000).

39. LEONARD COHEN, *Everybody Knows, on I’M YOUR MAN* (Columbia Records 1988).

40. See, e.g., *Wisconsin v. Yoder*, 406 U.S. 205, 221-22, 230-34 (1972); *Prince v. Massachusetts*, 321 U.S. 158, 165-66 (1944); *Pierce v. Soc’y of Sisters*, 268 U.S. 510, 534-35 (1925); *Meyer v. Nebraska*, 262 U.S. 390, 401 (1923); Cohen, *Regulating Reproduction*, *supra* note 1, at 436-37.

41. Rakowski, *supra* note 13, at 1354 (citing NORMAN DANIELS, *AM I MY PARENTS’ KEEPER? AN ESSAY ON JUSTICE BETWEEN THE YOUNG AND THE OLD* 66-82 (1988); NORMAN DANIELS, *JUST HEALTH CARE* 36-58

may be more efficient. Why compensate individuals for bad genetic luck, for example, when we can instead correct the “root problem” and improve the hand that they were dealt?

On this view, subsidization of access to enhancement should not necessarily track wealth and lack of ability-to-pay but instead a more “luck egalitarian” concept. Very roughly speaking, “luck egalitarianism” is the idea that individuals should not be held responsible for “brute luck” things they could not help (such as genetic traits), but should be held responsible for “option luck” choices they do make.⁴² Applied here, those with bad brute luck as to their traits should receive subsidized enhancement (or perhaps should be the only ones allowed to access that enhancement).

Such an approach would then face a second order question related to the issue of “separate spheres.” For those who adopt “separate spheres” views on distributive justice, access to enhancement should be keyed to a deficit as to that domain of well-being or trait (e.g., SAT tutoring only for those with lower IQs); for those who reject such views and are willing to accept a more flexible “currency” of redistribution, enhancements in one domain could be used to make up for deficits in another domain (e.g., SAT tutoring for those who are very short, cosmetic surgery improving facial features for those born with autism, etc.), or on the broadest conception, even forms of bad moral luck that have nothing to do with traits.⁴³

c. The Coercion of Voluntary Enhancements (not Oxymoronic!)

Suppose that enhancements were safe, provided benefits to those who got them, and were costless (both in terms of their cost to the user, for example, because they were fully subsidized, and in terms of their externalities). Suppose further that the state did not mandate that individuals take them. At least in terms of freedom and distribution, one might think that there would then be nothing wrong with making such enhancements available. This configuration is sometimes described as a regime of “liberal eugenics,” an “ideal of genetic control which leaves decisions about what kinds of people to produce in the hands of parents, absent government intervention.”⁴⁴ This program has three key defining features: it is “(1) voluntary, (2) individualistic, and (3) state-neutral”⁴⁵ (at least in the sense that the state does not mandate it; as I use it liberal eugenics is compatible with state subsidization).

(1985); JOHN RAWLS, A THEORY OF JUSTICE 60-61, 76-80 (1971)).

42. See, e.g., Elizabeth Anderson, *What is the Point of Equality?*, 109 ETHICS 287 (1999); Daniel Markovitz, *Luck Egalitarianism and Political Solidarity*, 9 THEORETICAL INQUIRIES L. 271 (2008); see generally SHLOMI SEGALL, HEALTH, LUCK, AND JUSTICE (2010). There are other questions, to be sure, pertaining to the use of enhancement to reduce inequality that I will only gesture at here. For example would we enable enhancements that raise people to a threshold of sufficiency on particular valued things like intelligence, to the highest amount of that thing attained by a living being, or by a fixed amount? Should some level of levelling be down be considered? This would depend (at least in part) on one’s views on other key moral theory distinctions about equality, for example between Egalitarians, Prioritarians, and Sufficiencyarians.

43. For in-depth discussions of the separate spheres issue as to distributional justice, see, e.g., Dan W. Brock, *Separate Spheres and Indirect Benefits, Cost Effectiveness & Resource Allocation*, 1 COST EFFECTIVENESS & RES. ALLOCATION 4 (2003), available at <http://www.resource-allocation.com/content/1/1/4>; I. Glenn Cohen, *Rationing Legal Services*, 5 J. LEGAL ANALYSIS 221, 248-50 (2013).

44. Fox, *The Illiberality of ‘Liberal Eugenics’*, *supra* note 38, at 2.

45. *Id.* at 3.

What could be wrong with allowing individuals to enhance in such a setting if the person making the choice is enhancing themselves, rather than enhancing a child or other person who cannot choose?

In what will seem like a contradiction in terms, there is a potential objection of “coercion” with “voluntary enhancement.”⁴⁶ To illustrate, imagine a good that is distributed in a zero-sum way, be it money, a job, a meaningful romantic relationship, etc. Imagine a population of one hundred identically situated individuals. If fifty of those individuals choose to enhance, they increase their share of the zero-sum goods. The other individuals in the population must enhance in order to compete. The result is a new equilibrium where everyone enhances, or at least many choose to enhance who would not choose to enhance but-for the need to compete with the enhanced in a zero-sum distribution, and those who fail to enhance will suffer in terms of the distribution. In some ways the dynamic is similar to one argument for imposing a minimum wage. It prevents the wage from being bargained down in the competition for jobs, and it protects a good that (some, at least) value—a baseline wage payment.⁴⁷

This dynamic of what I call “coerced voluntary enhancement” is not hypothetical. One good example comes from the world of sports, where some use steroids and other performance enhancing drugs to avoid “playing naked” when others are enhancing.⁴⁸ Another example comes from mental enhancement, where Chatterjee noted a study that showed:

[P]ilots taking donepezil performed better in emergencies than those on placebo could have wide implications. If these results are reliable and significant, should pilots be expected to take such medications? Can airline executives require this of pilots? Would they offer financial incentives to pilots willing to take these medications? Will the public, fearful of flying, pay more for cholinergic copilots? Closer to home, should post-call residents take modafinil to attenuate deficits in sustained attention brought on by sleep deprivation?⁴⁹

I think these two examples are interesting tests of conflicting intuitions. As a descriptive matter, the dynamic seems correct: competition with the enhanced where the enhanced are rewarded with something valued will inevitably lead some individuals to themselves enhance simply for the sake of remaining competitive.

But is that a moral *problem*? Imagine that pilots who took the drug in question really *were* better pilots. Why wouldn’t we want that competitive coercive dynamic to take hold if the enhancement was completely safe and costless? If one were to imagine the protest of the pilot who did not want to enhance (certainly not the way the pilot would put it!) the claim would be something like: “I have a right not to enhance and improve

46. See, e.g., Chatterjee, *supra* note 29, at 971-72.

47. That is, in the minimum-wage context, given enough providers of labor every individual might feel pressure to accept the below-minimum-wage offer for fear that everyone else will, such that the system unravels to the point where everyone is below minimum wage. Cohen, *Medical Tourism*, *supra* note 16, at 1535.

48. E.g., Chatterjee, *supra* note 29, at 971.

49. *Id.*

the safety of passengers, and the fact that it makes me a worse pilot and makes it more likely that my plane will crash, should not count against me in competing for this job.” Perhaps I am hard-hearted, but I do not find that plea all that sympathetic. We would reject a similar claim by that pilot not to practice on a flight simulator, for example, a non-biological form of enhancement. To claim a moral difference between the two cases (drug vs. flight simulator) he will have to offer a claim that biological and non-biological enhancements have morally significant differences, but I think that is a hard row to hoe once we have held safety and cost constant.

But notice that in the pilot example the good is a mixed one with a significant absolute benefit (it produces safer air flight and reaction to emergency which would be desirable for *all* pilots to have) and also positive externalities (safer flying for passengers). Let us instead consider the football case. I, your humble author, am about 5’9.5” (I cling to that “.5” tenaciously!) and weigh roughly 160 pounds (I shudder at re-reading this essay in years to come when that weight will seem like an unattainable idyll from a much heavier viewpoint). Given my current body, there is no doubt that I would never be able to play NFL football (well, perhaps as a kicker!). Many players in this and other sports are born with genotypes that produce phenotypes much better suited to their sports than mine will ever be (Michael Phelps’ unusual wing span among others comes to mind).⁵⁰ Their genotypes are a matter of moral luck—why shouldn’t I be allowed to compete with them by evening out with enhancement what genetics gave them? One might even say that denying me an enhancement leads me to be the victim of two injustices, the first genetic, the second regulatory, both of which prevent me from pursuing a desired life plan.⁵¹

One objection to this argument is that permitting me to enhance might lead to an “arms race” where all want-to-be NFL players enhance. Again, though, I wonder, what would be so bad about that? If there are safety risks or significant cost involved, then I can see a problem. And perhaps to avoid a constant one-up-manship we would want to create a ceiling to the enhancement (such as enhancement up to the highest level of a natural-born human being), as well as to neutralize the fact that we began at different starting points. But beyond that, why would it be bad? One answer, given by Elhauge, discussed below has to do with externalized costs from this competitive dynamic. That strikes me as promising, but if we were to stipulate zero externalized costs and zero costs

50. Mark Levine, *Out There*, N. Y. TIMES, Aug. 3, 2008, http://www.nytimes.com/2008/08/03/sports/playmagazine/803PHELPS-t.html?pagewanted=all&_r=0; Steve Parry, *What makes Phelps so special?*, BBC SPORTS OLYMPICS BLOG (Aug. 13, 2008), http://www.bbc.co.uk/blogs/olympics/2008/08/can_anyone_spoil_phelps_pool_p.html.

51. Dov Fox writes:

As Elizabeth Anderson observes, no one believes that ugly people, for example, should be compensated with publicly subsidized plastic surgery or sexual relations just because they face challenges in the pursuit of romance, through no fault of their own. An important measure of luck, I submit, is what gives meaning and value to many of the goods things in human life. Vulnerability to the contingency of luck, especially genetic luck, plays an ineliminable moral role in some of our most cherished institutions and practices.

Dov Fox, *Silver Spoons and Golden Genes*, 33 AM. J. L. & MED. 568, 601 (2007) (citing Anderson, *supra* note 42, at 305). I must confess I fail to understand why he does not think the way we look, our self-esteem, and the consequences for our professional and romantic lives are not as important as, say, susceptibility to a rare disease or a heart defect which do ordinarily give us a right to call on society to make us whole.

to the person who enhances (just to isolate *other* moral objections), again I ask why would it be bad?

d. The Love of Randomness: Sandel (and Others) on the Distribution of Honorifics in Sport

One answer comes from Michael Sandel, who, among others, has argued that part of the *telos* (to use the Aristotelian term) of football and other competitive sports is its inequality, the random distribution of talent.⁵² But that is just the convention of our current sport. Who is to say it would not be better if the abilities of all players were evenly matched, and other random forces were what decided matches, such as the direction of the wind at a given moment?

But, to play devil's advocate, let us grant that something would be lost if all players were allowed to use (by assumption safe and free) performance enhancing drugs. Perhaps sports fans just inherently enjoy the game as it is, and cheer on the g-dlike talents of some of the players and would enjoy the sport less if they believed they too could achieve that prowess through enhancement. Let us return to my very un-football like body. Suppose, and this too I fear is a pipe dream, that through a killer gym routine and dietary modification as well as significant coaching I could become ready for the NFL. It would require me to train 325 days a year for five hours a day. Imagine I undertake this Herculean effort. Would Michael Sandel and others cheer me on when I mount the field and move from law nerd to football hero? No doubt. But training in that way is just as much an enhancement as ingesting a pill.

What is the moral difference between the two? One answer might be "effort." Weightlifting Cohen "earned" those muscles while pill-popping Cohen cheated. Again, there is an element of moral luck here—some people's bodies will respond better to weight lifting regimes than others, so even on this "sweat equity" (if you will pardon the pun) theory perhaps those with less-responsive bodies are entitled to a chemical enhancement to make up the difference. But put that to one side, and imagine that everyone's body reacted the same way—that like Charles Atlas might have claimed, we could all be Olympians.

Would we be right to think that pill-popping Cohen had not "earned" his physique? Imagine the pills were quite expensive and to afford them I needed to take on a second job that required me to work hard for an additional five hours a day for 325 days a year. Now both pill-popping and weightlifting Cohen seem to be investing the same amount of equity. Why is one path better than the other?⁵³

Indeed, we can alter the example slightly. Suppose pill-popping Cohen has to work six hours a day for those 325 days a year to afford the pills. Has he not, if anything, worked harder to earn that physique than did weightlifting Cohen? And if in fact the pills are cheaper, and pill-popping Cohen has to work only one hour for 325 days for the pills

52. SANDEL, *supra* note 2, at 36-44.

53. Of course it is open for someone to suggest that *neither* earned their gains, because genes, success, disposition, are all products of things external to them and not under their control; all brute luck. Even if true and relevant, for present purposes the only claim I seek to make is that each has roughly equally "earned" the physique. Even if one concludes that neither has earned it, $0 = 0$.

and thus saves four hours a day compared to his weight-lifting counterpoint, might that actually be better? He has more time to read to the blind, help little old ladies cross the street, etc. (positive externalities) or for leisure.⁵⁴ Remember that as it is for some people, one hour of working out will be the equivalent of two, three, or four hours for others. They too are able to be “more efficient” like pill-popping Cohen in this last variant. I have yet to see anyone, out of inspiration from Vonnegut’s *Harrison Bergeron*⁵⁵ perhaps, call for those able to build muscle faster to be penalized in the competition by hanging weights onto them that nullify their advantage and/or applying muscle atrophy creams to their bodies. For these reasons even if inequality and effort were important for the *telos* of sport, I do not see why that provides a strong argument against enhancement.

e. Compassion, Solidarity, and Responsibility

Let us move our lens from sports to healthcare. Suppose an enhancement was developed that improved healthcare significantly. To use a real tangible example, suppose a vaccine for HIV is finally successfully developed. If you believe that this is a “treatment” and not an “enhancement” and that there is a morally significant difference (again like Elhauge, I am a skeptic about this distinction), we can imagine more clear examples of enhancements along these lines: there is a treatment that will let you survive on one-fifth of the calories your body currently requires without any ill effects, or there is an adamantium injection that makes our bones harder to break (like a certain Marvel character).

In such cases, Sandel, among others, has worried about the failure of compassion and solidarity and the ascription of responsibility to these individuals. He reasons that the more chance involved in our life choices, the more reason we have to share our fate with others. He worries that enhancement erodes solidarity. He suggests that the reason why the better-off accept that they owe things to the less well-off is because they know that their natural talents are not their own doing, they have been lucky, but that this impulse will not be carried forward with enhancement because we will hold them responsible for their failure to enhance.⁵⁶

I see several problems with this line of argument. First, it seems limited to only certain kinds of enhancement situations. In particular, where enhancement is mandatory the problem does not manifest since everyone will be enhanced. Where enhancements

54. Cf. Fox, *supra* note 51, at 595:

[F]oregoing the opportunity for striving may be morally acceptable, or perhaps even desirable, even if we do miss out on some of the associated value that the traditional means would have brought forth. The reason is that the end state itself may have such value that achieving it without recourse to a worthy struggle would be morally better than not achieving that end at all. For example, a person’s overcoming laziness by taking a pill might be better, for the individual, than his remaining lazy, although not as good as learning diligence through effort and determination.

55. See Vonnegut, *supra* note 24.

56. See SANDEL, *supra* note 2, at 87-92. A parallel concern offered by others is what such enhancement programs will do as to solidarity/support for those with disabilities. *E.g.*, Fox, *supra* note 51, at 621-22. This concern can also be re-characterized as one of consequentialist corruption discussed below. The answers I offer in this section and that later one, I think, also respond to this parallel argument. This kind of argument might also problematically imply that it is important to keep having children with disability, and perhaps to try to block genetic screening or pre-implantation genetic diagnosis, in order to secure enough “foot soldiers” for the disability rights movement and securing of benefits for them. For some that implication will provide a further reason to be suspicious of this kind of argument.

are not subsidized we may still feel compassion to those who are unable to afford the enhancement just as we currently do to those unable to afford housing, education, etc.

But imagine there is a subsidized voluntary enhancement program; does that mean individuals will be held responsible and deprived of resources if they choose not to enhance? Frances Kamm has emphasized that this does not follow. She gives the example of someone who is electrocuted after stupidly using a blow dryer in a bathtub. She thinks Sandel confuses responsibility in the sense of blame and the sense of bearing of costs and notes that the bather “being at fault in a minor way does not mean that he forfeits a claim on others he otherwise had to free medical care.”⁵⁷ That is, “[s]imilarly, if someone for reasons of conscience refuses to take advantage of the option to abort a difficult pregnancy, we do not think that she should forfeit medical care simply because she could have avoided the need for it.”⁵⁸ Kamm, correctly in my view, thinks that Sandel has mistakenly located the duty to aid in the fact that they are the victims of bad luck, when she thinks “the duty to aid others seem[s] to have more to do with respect and concern for the value of other persons than with whether they have or have not gotten themselves into whatever situation they are in.”⁵⁹

But suppose Sandel were to re-frame his argument as not being about what we owe each other in a deeper moral sense but instead as a descriptive account of likely human reactions, even if those reactions are concededly not what morality would actually require, a kind of error theorem. Would that count as an argument against enhancements that were safe, costless, and available to all? I think not for three reasons.

First, notice that this problem only applies to some forms of enhancement where we can ascribe responsibility to the person who is seeking to make a claim on us or who seeks or compassion/solidarity. For example, in the case of enhancing children, it is unclear why parental decisions to fail to enhance the child should reduce our psychological feelings of compassion or solidarity with them; indeed it seems just as plausible that it will have the opposite effect.

Second, if we are talking just about mistaken human inclination, it is unclear to me why such priors cannot be re-educated through nudges or public awareness campaigns. Indeed, perhaps there are enhancements we will discover to improve precisely this kind of reasoning!

Second, even if we thought such priors were un-eradicable, it is not clear to me that given a choice of furthering these kinds of dispositions but having the enhancements or solidarity without them, that we would always choose the latter. To use a dramatic example, suppose that by swallowing one pill without any untoward side effects you could become impervious to all pathogens and die peacefully of old age in excellent health at age 110. Such a pill would not only improve the welfare of those who take it but also would produce significant positive externalities (or, if you prefer, reduce significant negative externalities of the pre-pill baseline): my bad health imposes significant costs on others—family who must tend to my health, employers who face my loss of productivity, others to whom I transmit infection, etc. By taking the pill I have improved my wel-

57. Kamm, *supra* note 10, at 12.

58. *Id.* at 13.

59. *Id.*

fare and the welfare of others around me. If we assume *arguendo* that this could only be accomplished by heaping scorn (e.g., by making them social pariahs) and/or reducing resources devoted to those “naturalists” who refused to take the pill, would that be an overwhelming reason to ban the pill or not pursue its development? To me it certainly seems not. Indeed, it may be possible to take some of the resources saved from the use of the pill and improve those people’s health care, a form of growing the pie.

Even if that were not the case, even if we concede that the “naturalists” would be worse off as compared to a world where the pill was unavailable, so what? That should only bother us if we think they have a rights claim *not* to take the pill. That rights claim seems to me to be predicated on what in the law we like to call a “baseline” problem. What is so special about the existing baseline of our lifespan and disease immunity as it stands now? It was quite different in 44 AD, 1776, and will be quite different again in 2081. What is the moral significance of our current state?

To see why this rights claim seems problematically predicated on a baseline problem, let us turn the world upside down. Imagine that we all are currently immune from all diseases and die in good health at 110. A pill is developed, though, that will change our immune systems to resemble those currently enjoyed in the real world. Would you have a rights claim to take the pill in question? Perhaps if you believe in a right to suicide or to control one’s body by ingesting whatever you please, even if the government makes it illegal. Would you have a rights claim to take the pill *and* avoid the heaping of scorn or reduction in access to resources? That seems quite doubtful to me. Would you have a rights claim to make *everyone* in your society take the pill because if they don’t you will be disadvantaged in terms of the coercion versus competition dynamic discussed above. Certainly not.

The baseline problem here seems to be the mistake of making an undefended appeal to nature, that what is natural is good. That is:

Even if we can agree that some things are natural and some are not, what follows from this? The answer is: nothing. There is no factual reason to suppose that what is natural is good (or at least better) and what is unnatural is bad (or at least worse).⁶⁰

Such a claim is particularly hard in the health domain, because so many of the innovations we have developed already (antibiotics, for example) seek to forestall the natural.

While it is open to enhancement critics to draw a strong line between treatment versus enhancement, that line is very hard to defend. As Kamm, for example, has put it:

The assumption behind [this view which she associates with Sandel] is that nature is sacred and should be honored. But why should we believe this? Cancer cells, AIDS, tornadoes, and poisons are all parts of nature. Are they sacred and to be honored? The natural and the good are distinct conceptual categories and the two can diverge: the natural can fail

60. JULIAN BAGGINI, MAKING SENSE: PHILOSOPHY BEHIND THE HEADLINES 181-82 (2002).

to be good and the good can be unnatural (e.g., art, dams, etc.). Suppose nature was sacred and to be honored. We would clearly be overriding its dictates by making people able to resist (by immunization) illnesses that they could not naturally resist. Is doing this impermissible because it does not honor nature? Surely not.⁶¹

f. Externalities

Owing no doubt in part to his background in law and economics and the fact that some who write in this domain are hostile to or not well-versed in these methods, in his unpublished work Elhauge has suggested that the chief problem with enhancement lies in the way it creates externalities for other. He beautifully weaves together the distinction between absolute and positional benefits with the notion of the competitive coercion dynamic I discussed above. As he writes, we should be concerned about enhancement in:

situations where we cannot trust individuals to weigh the benefits and costs of their biological interventions because many of those effects are external to them. In particular, sometimes part or all of benefits are transferred to them from others or part or all of the costs are shifted from them onto others. As a result, individuals who consider only the benefits and costs they personally experience will be agreeing to biological interventions that impose a net harm, including a net harm on themselves once one considers that other individuals will undergo similar biological interventions that inflict a net harm back.

* * *

In sports competition, the benefits to the beta-blocker user reflect a transfer of benefits from others. Only one athlete can win each Olympic medal. If one athlete wins by taking a beta-blocker, then that merely transfers that benefit to the using athlete from some non-using athlete. The use of the beta-blocker may seem like it has a large benefit to the individual user, but it creates a zero total benefit to the set of all persons. If the other athletes respond by also taking beta-blockers (as they are likely to if it becomes permissible), then all the athletes will have their accuracy improved similarly and the beta-blockers are unlikely to alter who wins. If so, then beta-blocker usage will provide not only zero total benefit to all athletes, but zero individual benefit to each athlete person as well. Each athlete nonetheless will have incentives to take the beta-blockers because the individual athlete considers only whether the benefits they personally experience from their own individual usage decision outweigh the health risks and costs to themselves. The collective result is that athletes suffer health risks and costs in return for zero total and perhaps zero individual benefit as well. Those health risks and

61. Kamm, *supra* note 10, at 8-9.

costs may not be large, but suffering them for zero benefit is something we should want to deter.

In classical music, in contrast, the benefits are not mainly mere benefit transfers. To be sure, there are only so many slots on each orchestra, so that part of each musician's motivation for taking beta-blockers doubtless reflects benefit transfers. But beta-blocker usage also creates a powerful absolute benefit even if *all* musicians use them: their performances sound better to audiences. Given this significant absolute benefit and the small health risks and costs, it seems quite plausible that most musicians who use beta-blockers would still choose to do so even if they enjoyed none of the transferred benefits. We thus lack a strong reason to deter the usage of beta-blockers by classical musicians.

Here, then, is the central idea of this book. We should disapprove of efforts to re-engineer human biology whenever we believe that most persons who engage in such re-engineering would not do so without transferred benefits or shifted costs. Transferred benefits are gains from human re-engineering that reflect transfers of value from others, and thus result in no value for anyone if everyone engages in the reengineering. Shifted costs are harms from human engineering that are inflicted on others. In contrast, absolute benefits are gains from human re-engineering that would be enjoyed even if others obtained the same biological improvement. Unshifted costs are costs from re-engineering that the user suffers personally.⁶²

This intellectual move in some senses shifts enhancement from a *sui generis* bioethics issue pressing us to consider the new issues posed by reconfiguring human beings to instead make the issue one more in a series of familiar problems from economics and game theory related to collective action and externalities.

This is not the place to consider deeply and potentially critique Elhauge's contribution, in part because he has not yet finished the manuscript (though I, among others, hope it will be completed soon). Instead, I will content myself with three observations:

First, one need not believe (as Elhauge does) that this is *the only or main* problem with enhancement to find this contribution valuable. It is a useful insight even if one thought this to be merely one among a series of problems with enhancements, and one that singles out enhancements with positional value and shifted costs.

Second, if the enhancement problem ends up being largely an externalities one, then one solution that presents itself is the one endorsed by law and economics in other instances of externalized costs: get the person generating the cost to internalize the externality and pay for the full cost of their activity. In some instances this can be achieved without too much design difficulty—for example using a Pigouvian tax on those who use

62. Einer Elhauge, unpublished manuscript, at 9 (on file with the author).

the enhancements that cause health risks to the extent they involve positional and not absolute benefits and re-investing the proceeds in funds for health care to deal with some of the negative effects of that enhancement. Indeed it may be most efficient to set the tax at a level that discourages consumption of such enhancements altogether. In other instances, though, the harm involved will be hard to monetize. Suppose a particular enhancement for muscle growth desirable for playing a professional sport also makes the individual who enhances more likely to be aggressive and increases by ten percent the chance that the player will physically abuse a romantic partner. While we could tax the enhancement in that case and try to compensate the romantic partners who do get abused, doing so would be fairly difficult and raise questions as to whether the compensation makes them whole, on which opinions will likely diverge.

Third, if forcing the internalization of externalities is difficult to do in a particular case—because it will be difficult to quantify the externality, because it will be difficult to recompense the victim, etc.—it may be that bans are justified on a theory of the second best. That raises two questions: first one of level of generality—do we ban enhancement, biological enhancement, biological enhancement for primarily positional goods, biological enhancement for the primarily positional good of muscle growth?—and second it depends on, for the relevant category “size,” having a prior as to how much of the activity we will govern is externality-causing, how large the externality will, and how much is gained. This is the bread-and-butter of legal and moral discourse on over and under-inclusivity, and thinking on those subjects can guide in thinking about what to proscribe when the more subtle regulatory tools are unavailable.

Finally, I think the notion of transferred costs is particularly interesting and worth further exploration in the sub-set of enhancements involving enhancing our children. One interesting questions is to what extent parents currently internalize the externalized costs of the enhancement they foist on their children. When it comes to SAT tutoring, piano lessons, or the current group of non-biological enhancements, parents pay the financial costs, the time cost of transporting children, and may be on the receiving end of significant amounts of child resentment. The same may be true of biological enhancements should they become more common. Currently, I think it is fair to say, American family law only rarely seeks to monetize the externalities involved in reproduction or child rearing.

*g. Arguments Specific to Enhancements Imposed on Those Who Cannot Choose
(Especially Children)*

A further set of arguments are, I think, applicable only to the sub-category of enhancements related to those who cannot choose, most commonly arguments about the choice of parents to enhance their children.

i. Disfiguring the Parent-Child Relationship and Other Forms of Corruption

Michael Sandel has forcefully suggested that the true problem with enhancement “lies in the hubris of the designing parents, in their drive to master the mystery of birth . . . [because] it disfigures the relation between parent and child, and deprives the parent of the humility and enlarged human sympathies that an openness to the unbidden

can cultivate.”⁶³

One might distinguish two versions of this argument. The first is that this “disfiguring” is bad because it sets back the interests of the child, that children are harmed by the weight of parental desires. As a threshold matter, even if these parental pressures set back the welfare of the child we must compare it to the welfare benefit to the child of the enhancement.⁶⁴ But let us imagine the child is, on balance, more harmed by the parental pressure than benefitted by the enhancement, still the argument runs into the same problem as other Best Interests of the Resulting Child arguments at least as to pre-birth enhancement by selection. If the child in question would not exist *but for* the enhancement, and instead a different child would exist in its place, then even if existing paired with these inappropriate parental pressures is bad (so long as it does not give rise to a life not worth living) we cannot say the child is harmed by the enhancements.

The second version of the argument, which I think is closer to Sandel’s actual intent, is that the disfigurement is not bad for the child *per se* but instead that it corrupts the ideal of parenthood. This version has echoes in Leon Kass’ *Wisdom of Repugnance*, which offers a more religious-sounding analogue to Sandel’s critique. As Kass writes:

Repugnance . . . revolts against the excesses of human willfulness, warning us not to transgress what is unspeakably profound. Indeed, in this age in which . . . our given human nature no longer commands respect, in which our bodies are regarded as mere instruments of our autonomous rational wills, repugnance may be the only voice left that speaks up to defend the central core of our humanity. Shallow are the souls that have forgotten how to shudder.⁶⁵

More specifically, Kass complains of the way that reproductive technologies (cloning, specifically, but I think it fair to read his critique as more general) turn “procreation into manufacture,” and that such technologies where the manufacturer “stands above [the product] . . . by his will and creative prowess” are “profoundly dehumanizing, no matter how good the product.”⁶⁶

As I have suggested in other work, this kind of objection in turn has two interpretations, that I have called “consequentialist” and “intrinsic” corruption.⁶⁷

I. Consequentialist Corruption

Consequentialist Corruption justifies intervention to prevent changes to our atti-

63. See SANDEL, *supra* note 2, at 46.

64. In the related context of wrongful life, Seanna Shiffrin has taken a different view that harms in reproduction cannot be outweighed by greater “pure” benefits. See Seana Valentine Shiffrin, *Wrongful Life, Procreative Responsibility, and the Significance of Harm*, 5 LEGAL THEORY 117, 148 (1999). For my critique of her view, see Cohen, *Beyond Best Interests*, *supra* note 1, at 1244-64.

65. Leon R. Kass, *The Wisdom of Repugnance*, in THE ETHICS OF HUMAN CLONING 19 (1998).

66. *Id.* at 38, 39.

67. I. Glenn Cohen, *Circumvention Tourism*, 97 CORNELL L. REV. 1309, 1376-81 (2012); Cohen, *Regulating the Organ Market*, *supra* note 22; I. Glenn Cohen, Note, *The Price of Everything, The Value of Nothing: Reframing the Commodification Debate*, 117 HARV. L. REV. 689 (2003) [hereinafter Cohen, *The Price of Everything*].

tudes or sensibilities that will occur if the practice is allowed, that in Kass' version will cause us to view our children (and perhaps ourselves even as adults, in which case the objection extends beyond choosing our children) as dehumanized products, or in Sandel's as objects of our mastery and free authorship. While Sandel and others frame this in terms of "corruption" of ways of life, it can easily be reframed using the language and concepts of economics as negative externalities.⁶⁸

This concern is contingent and to be successful must rely on empirical evidence, in that it depends on whether attitudes *actually* change.⁶⁹ In the case of enhancement, it is hard to know what to make of the existing evidence. The opportunity to enhance our children through non-biological means (SAT tutoring, camps for the arts, etc.) and biological non-genetic means (such as Ritalin and anti-depressants) has now been common for some time. It is unclear to me how one might go about measuring how much parental attitudes have been "distorted" already and/or how more sophisticated genetic enhancements might further "distort" it. The dynamics are complex here. Suppose it became possible to develop a genetic alteration applied pre-birth that would give children the musical abilities consistent with a lifetime of piano lessons. Would that gene further "distort" parental attitudes (by allowing parents to dictate that their child will be a music prodigy), reduce the "distortion" (since now parents will not have to force their children to spend hours practicing piano, a form of parental dominance) or would it actually cause them not to pursue piano at all (if *every* child can be a prodigy, perhaps the positional value is erased and thus the interest in having one's child be one is reduced)?

I have put the term "distortion" in scare quotes because among the difficulties in such measurement is achieving a baseline of the ideal parental attitude from which distortion can be measured. The right level of parental control, from "Tiger Mother" to "Free To Be You and Me" has varied over the course of history and between cultures.⁷⁰ I doubt we would reach consensus on what level of parental control versus laissez-faire is desirable (what I have elsewhere called a conventionalist account of corruption), nor do I think the ideal parent-child relationship can be deduced from introspective moral reasoning about the nature of the practice (what I have elsewhere called an "essentialist" account of corruption).⁷¹

Even if we put these concerns with this objection aside, it is still important to distinguish the application of enhancement to children before they are conceived or perhaps born versus enhancement after birth. In many ways, it is the latter enhancements that should concern us more, not only for the reasons discussed above relating to harm to the children the problems of Best Interests of the Resulting Child arguments, but even as to corruption of third party values. As Kamm has argued, it may be that parental attitudes that countenance post birth enhancement are different from those that countenance pre-

68. See, e.g., Richard A. Epstein, *Surrogacy: The Case for Full Contractual Enforcement*, 81 VA. L. REV. 2305, 2325-26 (1995) (framing the potential for corruption of women's sexuality as part of commercial surrogacy as a "soft externalit[y]").

69. See Scott Altman, *(Com)modifying Experience*, 65 S. CAL. L. REV. 293, 294-97 (1991); Cohen, *The Price of Everything*, *supra* note 67, at 692 n.13; Cohen, *Regulating the Organ Market*, *supra* note 22.

70. AMY CHUA, *BATTLE HYMN OF THE TIGER MOTHER* (2011); *FREE TO BE YOU AND ME* (Hen's Tooth Video 1974).

71. For more on the distinctions between essentialist and conventionalist accounts of corruptions and critiques of both, see Cohen, *The Price of Everything*, *supra* note 67, at 693-703.

birth ones in terms of what the appropriate balance of accepting versus transforming love of our children should be:

Love, it has been said, is for a particular. Consider love for an adult. Before we love someone, we may be interested in meeting a person who has various properties, such as kindness, intelligence, artistic ability, a good sense of humor, etc. When we meet such a person we may be interested in him rather than someone else because he has these properties. However, though it is through these properties that we may be led to love this particular person, it is the particular person that we wind up loving, not his set of properties. For if another person appears with the same set of properties, that does not mean that we could as easily substitute him for the person we already love. Even if the person we love loses some of the properties through which we were originally led to love him (e.g., his beauty) and another person has more of the good properties that originally interested us, we would not necessarily stop loving the particular person we love.

It seems then that when we love a particular person, this involves much of what Sandel calls accepting love. If we do seek transformation in the properties of the person we love, this may be because of moral requirements or because we want what is good for him. By contrast, before a particular person whom we love exists (just as before we find someone to love), it is permissible to think more broadly in terms of the characteristics we would like to have in a person and that we think it is best for a person to have, at least so long as these characteristics would not be bad for the person who will have them and are consistent with respect for persons. . . .

Before the existence of a person, there is no person yet with certain characteristics that we have to accept if we love him and do not want to impose undue burdens necessary for changes. Hence, not accepting whatever characteristics nature will bring but altering them *ex ante* does not show lack of love. Nor can it insult or psychologically pressure a person the way *ex post* changes might, as no conscious being yet exists. Importantly, it is (somewhat paradoxically) rational and acceptable to seek good characteristics in a new person, even though we know that when the child comes to be and we love him or her, many of these characteristics may come and go and we will continue to love the particular person.⁷²

72. Kamm, *supra* note 10, at 10-11 (citing ROBERT NOZICK, ANARCHY, STATE AND UTOPIA (1977)). See Cohen, *The Price of Everything*, *supra* note 67, at 693-703. Kamm also lodges other attacks at Sandel's views that I will not rehearse here but instead direct the interested reader to.

To be sure this account of parental love is not without its critics. Fox, for example, argues that:

The love that we believe parents ought to have for their children is more aptly described as love at first sight. This is a love that properly takes hold before parents learn anything about the sort of person the child is or will become. It is fitting for parents to embark on love for a child in a manner that is not contingent on the particular characteristics about her that we value. Love for children is not something that parents that can justifiably forsake on grounds that they are no longer fond of those particulars. For this love is not, in the first instance, love for the particular, but rather love for the person who comes to occupy that special role within the parent-child relationship, regardless of whether or not the child's attributes are ones that the parents ever wished for or came to find desirable.⁷³

I am not sure who has the better of the argument. I think Fox may be right that parents would be wrong to stop loving their child if he stopped exhibiting some particulars (e.g., a car accident leaves him unable to walk), but perhaps not others (e.g., he pursues a life of crime and ends up murdering an innocent, or if you need more tragedy, ends up murdering all his siblings). But putting aside whether loss of particulars (and which) could justify when parents can *stop* loving a child they began to love, I think Kamm is on to something in distinguishing the prenatal and postnatal context. There is nothing wrong with trying to choose the child you would like to have (and love) in deciding the method of creating that child, so long as you agree to love the child you end up having, perhaps despite your best efforts.

Finally, even if one is convinced that enhancement (i) is empirically likely to (ii) distort us from a morally defensible baseline of what attitudes parents should adopt to their children, that does not itself lead to the view that such enhancements of children should be prohibited. First, it is possible that the negative consequences could be avoided through re-education campaigns, the laying of moral but not legal sanction on parents who enhance their children, etc. Second, by conceiving consequentialist corruption as a negative externality, we can also imagine the typical intervention suggested by law and economics approaches to this kind of externality—finding ways to make parents internalize the negative externality. In theory, this might lead us to impose a tax (perhaps pegged to a percentage of one's parental income to avoid inequality) to use enhancement, and take the spoils and redistribute it towards cultural education programs aimed at combatting corruption (parenting courses emphasizing the importance of accepting parental love, tax credits for television and film productions that support this theme). Of course, in reality, this would be hard to accomplish but it is important to understand that if the objection here is to an externalized cost, it is in keeping with many other such costs faced

73. Fox, *supra* note 9, at 257-58.

by the law and hardly exceptional. Finally, even if this externality could not be internalized, we have to compare it to whatever benefit is produced by the behavior in question. If the enhancements to these children were good enough in terms of generating a reduction of *other negative* externalities (again, imagine the enhancement was the ability to live consuming much less food and thus taxing the environment much less) whatever new negative externalities are generated through changing parental mores may be dwarfed.⁷⁴

2. Intrinsic Corruption

A second conception of corruption, intrinsic corruption is an objection that focuses on the “inherent incompatibility between an object and a mode of valuation,” where the wrongfulness of the action is completed at the moment of purchase irrespective of what follows; the intrinsic version of the objection obtains even if the act remains secret or has zero effect on anyone’s attitudes.⁷⁵ It has a more Kantian flavor to it as compared to its consequentialist counterpart.

Such a view escapes some of the objections to consequentialist corruption I have raised: there is no need to show empirically that the corruption in question takes place, and the fact that there may be positive benefits to the enhancement may seem irrelevant, at least if one takes a strong view that this intrinsic corruption cannot be trumped by good consequences from the act. All the other objections I have raised in the prior section, however, persist. Further, for some (who have more consequentialist leanings and/or adopt an “experience requirement” as to human welfare)⁷⁶, the notion that intrinsic corruption that affects no one’s experience of the world is something that is deeply morally problematic and may not seem persuasive.

ii. Rights to An Open Future

Joel Feinberg, among others, argued for a “right to an open future,” and that children should be “permitted to reach maturity with as many open options, opportunities, and advantages as possible.”⁷⁷ As Fox puts the problem, “[b]y allowing enhancements for non-primary goods, which are beneficial for some life plans *at a cost to others*” some enhancements may “fall[] foul of the option-maximizing requirement of children’s right to an open future.”⁷⁸

There are two responses to this kind of objection. The first response is internal to the objection—it accepts the right to an open future as a kind of right (or at least an important interest to motivate policy) but then disputes whether most enhancements threat-

74. At this juncture one might be tempted to think that the negative “corruption” externalities may also be dwarfed by the benefit to the children themselves of the enhancement. I think that is a problematic line of thinking, though, for reasons I discuss in the next Part. See *infra* Part IV.

75. Cohen, *The Price of Everything*, *supra* note 67, at 692 n.13; cf. ELIZABETH ANDERSON, VALUE IN ETHICS AND ECONOMICS 144, 172 (1993).

76. See, e.g., L.W. SUMNER, WELFARE, HAPPINESS, AND ETHICS 127 (1996) (citation omitted); I. Glenn Cohen, *The Right Not to be a Genetic Parent?*, 81 S. CAL. L. REV. 1115, 1139 n.64 (2008) [hereinafter Cohen, *Genetic Parent*].

77. Joel Feinberg, *The Child’s Right to an Open Future*, in WHOSE CHILD? CHILDREN’S RIGHTS, PARENTAL AUTHORITY, AND STATE POWER 126, 130 (William Aiken & Hugh LaFollette eds., 1980).

78. Fox, *The Illiberality of ‘Liberal Eugenics’*, *supra* note 38, at 20.

en this right (or interest). Along these lines, Fox writes that:

[L]iberalism does not accord offspring any such right. What is required to secure offspring autonomy is not access to the greatest number of life plans, but rather, first, the faculty—given by a cluster of personal abilities including knowledge, experience, emotional independence, and critical reasoning—and, second, the facility to choose freely among a reasonable range of life plans.

There are at least two reasons why parental values should be accorded some role in steering the direction their children's lives will take.

The first reason relates parental decision-making to the social preconditions of offspring autonomy Parental decisions which reduce the absolute number of life plans available to offspring while at the same time giving context and meaning to socially embedded projects and pursuits are wholly consistent with liberalism's commitment to autonomy, so long as parental decisions preserve for progeny the opportunity for genuine choice among a diversity of viable life plans.

The second reason to reject Feinberg's option-maximizing principle relates private parental choices to the experience of intimate relationships within the institution of family. . . . Far-reaching public incursion into childrearing decisions would jeopardise the experience of intimacy by displacing the sense that one's interests within the family are 'fused with those of another' with the sense that those interests instead serve public goals.⁷⁹

This approach yields a kind of Goldilocks approach to enhancement. It would lop off as *verboten* enhancements that reduce *too much* the number of open life plans for an enhanced child; the goal is not for regulation to keep the *maximum* number of life plans open, but instead to keep *sufficient* life plans open to avoid a kind of parental despotism. It would also, however, leave sufficient room for parental preference to alter their children in keeping with the notion that parental preferences are essential for fostering offspring autonomy, very much in analogy to what one might say about parental religious preferences for the upbringing of the child.⁸⁰ It would thus cleave off some enhance-

79. *Id.* at 20-21 (internal citations omitted).

80. *Cf.* Cohen, *Beyond Best Interests*, *supra* note 1, at 1204-08 (discussing analogies between constitutional and political theoretical guarantees and limitations of religious rearing of children and state limits on reproductive choices of parents); *see also* Fox, *supra* note 9, at 250:

The greater specificity with which parents can expect the hoped-for products of their projects to be achieved, the less open they show themselves to the possible contours along which their [children's] lives may unfold. Some methods of genetic enhancement are modest in aspiration The consummately controlling reproductive act is nuclear somatic cell transfer, otherwise known as human cloning The desire for a child clone of a parent, loved one, or the desired genotype of another reflects the expectation that

ments (that take away too much from children in terms of their life plan choice) while leaving others (that increase the number of open life plans or leave a sufficient number of life plans open). Such an approach requires the ethicist (and ultimately the policy maker) to specify how much openness is sufficient, and how much enhancement in one or a set of a life plans can justify how much of a reduction in the chance of pursuing further life plans.

A second more radical and more external critique I might offer, stemming from my own work, is to ask why the number of open life plans matters. For reasons I have offered in prior work, mentioned above, and apply to enhancement again Part IV of this article, one might argue that one very good reason for caring about the number of life plans that remain open—because leaving more life plans open is *better* for the children that result—may be a problematic justification for some kinds of enhancements (certainly enhancement by selection of gametes, potentially pre-embryonic manipulation). For reasons related to the non-identity problem, in these cases it is wrong to think of ourselves as narrowing or broadening the life plans available to a particular child, thereby harming or improving that child’s welfare; instead what we are really doing is replacing children with fewer (or insufficient) open life plans with children with more (or sufficient) open life plans. That may be a desirable thing to achieve, but it is not desirable *because* it improves the life or prevents harm to this particular child. It does no such thing. Instead, such a justification for limiting enhancements must be desirable because it improves parental welfare, reduces social externalities, or is favored from an impersonal non-person-affecting viewpoint, principles that I have suggested in prior work face some difficulties in justifying legal intervention.⁸¹

iii. Lack of Creativity

At the end of an essay on enhancement focused on attacking Michael Sandel’s position, Kamm intriguingly suggests that:

A deeper issue, I think, is our lack of imagination as designers. That is, most people’s conception of the varieties of goods is very limited, and if they designed people their improvements would likely conform to limited, predictable types. But we should know that we are constantly surprised at the great range of good traits in people, and even more the incredible range of combinations of traits that turn out to produce “flavors” in people that are, to our surprise, good. For example, could we predict that a very particular degree of irony combined with a certain degree of diffidence would constitute an interesting type of personality? . . . [T]he “lack of imagination” objection to enhancement I am now voicing is based on a concern that in seeking enhancements people will focus on too simple and basic a set of goods.

whatever biological particulars are known about the past life of the cloned individual should bear a commanding influence on the course of the life that is to come.

81. See generally Cohen, *Beyond Best Interests*, *supra* note 1; Cohen, *Regulating Reproduction*, *supra* note 1.

...
 [T]he lack of imagination objection emphasizes that when creatures of limited imagination do not design themselves and others, they are likely to extend the range of their appreciation of goods because the range of goods is likely to be larger. A parent who might have designed his child to have the good trait of composing classical music, could not have conceived that it would be good to have a child who turns out to be one of the Beatles. (To have conceived it, would have involved creating the style before the Beatles did.) The lack of imagination objection is concerned that too much control will limit the number and combination of goods from what is possible. Hence, at least in those cases where enhancement—greater goods—is more likely to come about if chance rather than unimaginative choice is in control, the desire for enhancement will militate against control.

In some ways, Kamm's suggestion is *simpatico* with the externalities concern with enhancement. We could reframe it as a concern that as against the existing baseline of random distribution of traits and abilities and the externalized benefits and costs they represent, the net externalized benefits and costs will be greater where enhancement is permitted because individuals will make unimaginative choices. Or, to put it a bit glibly, "mother nature knows best" and people will make bad choices when they enhance. This is an empirical question. I must admit, understood as such, I am skeptical about the objection. The current (relatively random) baseline distribution of attributes includes a large amount of externalized costs, and it seems to me that it is just as likely (indeed more likely) that in a future of unimaginative but planned enhancements there would be fewer externalized costs and more externalized benefits; the one thing that unimaginative people are good at imagining, after all, is costs! The bigger threat is that unimaginative *positional* enhancements have externalized (and transferred) costs. But nothing new is added in this reformulation by the fact that the enhancements are unimaginative or homogenous. The response is the same discussed above and in greater depth by Elhauge as to absolute versus positional benefits and transferred costs, and the potential regulations aimed at curbing this concern such as Pigouvian taxes. Indeed, it may be that lack of imagination helps the concern about externalized costs from positional goods: the more homogenously chosen an enhancement is, the more people will have it, and the less useful it will be as a position enhancement.⁸²

But perhaps the reframing of the objection in the language of law and economics loses something? Perhaps Kamm's objection is not about tangible costs to others but the loss of something ineffable in a society of far-too-similar? Of course, no matter how good enhancement technologies become—genetic or otherwise—only so much homogenization will be possible, and there will still be significant room for luck both in how effective particular enhancements are and in the thousands of experiences a day that shape

82. I say "may" because it may depend a little on just how many people seek an enhancement. That is, there is a tipping point where if *too* many people select for the same homogenous enhancement, we get the "coercion of voluntary enhancements" through competition effect discussed above.

us. It is so hard for me to imagine a world of genetic homogeneity (for example, if everyone were identical twins?) that I have a hard time figuring out whether we currently have too much, not enough, or just the right amount of heterogeneity in our traits and abilities.

All that said, if this lack of imagination really *was* a concern, I have a fanciful but effective intervention I call the “gumball solution.” Picture an old-school gumball machine. You deposit your nickel (or perhaps now quarter, or dollar?) and turn the knob. It is fairly unpredictable just what specific gumball colors you get and turning the knob at a different time or in a different sequence of users would likely lead to a different set of candy. We could build a gumball machine dynamic into every enhancement. We could allow you to choose, say 80 percent (or 99 percent) of your enhancements off a menu, but for the last 20 percent we would randomize what you received. That would ensure some heterogeneity and unusual combinations without requiring us to ban enhancements altogether or regulate them more heavily.

* * *

This survey of possible objections to enhancement is not meant to be exhaustive, but I do think it captures the major concerns. My goal has not been to evaluate thoroughly any particular objection, but to offer some general pushback to all objections to try to sort wheat from chaff.

My tentative conclusion is that some of these objections—reductions in compassion or solidarity, the distribution of honorifics and the importance of randomness, the disfiguring the parent-child relationship/corruption—are often overstated and do not represent serious concerns with enhancements, once these objections are properly understood.

A second set of objections—that enhancements will worsen inequality due to unequal access, that enhancements will foist upon us negative externalities—seem to be serious moral concerns, but ones for which regulation of enhancement could make significant headway: subsidization of enhancements could help reduce inequality that results from their availability, and indeed might enable reductions in existing levels of inequality in the moral luck of the distribution of abilities and traits in the pre-enhancement baseline; Pigouvian tax systems can help make those who opt for enhancement internalize the externalities, especially for positional goods. For these objections, such softer regulatory interventions seem to me far preferable to adopting strategies aimed at prohibition.

There is a third grouping of objections—safety concerns with enhancements pertaining to those who are enhanced, the coercion of voluntary enhancement—that strike me as both more serious moral concerns but also more difficult to fully correct through softer forms of intervention. For this category, I think the taxonomy of enhancement types set out in Part I will enable us to determine for which sub-categories more prohibitory strategies are or are not appropriate.

For safety concerns, the enhancements that are more likely to involve great risk to the person seeking to enhance are genetic enhancements and/or irreversible ones.⁸³ Even

83. Once again, as I argued above, if the concern is about harm to the enhanced, that concern is logically

for these enhancements it may be that prohibition is inappropriate, and choice architecture interventions (such as waiting periods, strong default rules in the other direction, etc.) and taxation are more appropriate—one’s reactions may largely depend on one’s feelings about the scope of justified paternalism (for self-enhancement) and of *parens patriae* state interventions into child rearing (for enhancing children). In any event, should we choose to opt for the more prohibitory strategy, we have a ready model in FDA’s premarket approval regime for drugs, which requires showing both safety and efficacy as a prerequisite for selling the drug.

For fears of the coercion of voluntary enhancement, the objection is at its zenith where adopting such enhancements is costly or risky (in safety terms) for the person who chooses to enhance only to “keep up.” As my pilot example from earlier suggests, before giving this objection substantial force we will want to interrogate whether we think the pressure to enhance in this domain is, on balance, a bad thing, or whether the gains justify the enhancement. Where the enhancement offers gains in absolute and not positional goods, and where the enhancement has stronger positive net externalities, the argument for regulating is weaker.

I think several of the objections that are specific to enhancing children, such as claims of a right to an open future, face difficulties related to the Non-Identity Problem. While pitched as concerns for the welfare of the children who will have these limited lives, at least where enhancement is achieved through selection of gametes (and potentially more broadly, see below) the argument cannot succeed as such because it confuses improving a child’s welfare or preventing harm to it with replacing the child with another higher welfare child.

The last category, involving fears of the effects of homogeneity through enhancement and lack of imagination—strikes me as one whose force is difficult to evaluate. If this is just a redux of the externalities concern, then it seems to me appropriate to evaluate it in terms similar to that concern, and little is added. By contrast, if there is something less tangible to which the objection gestures, the objection poses two hard to answer questions: the normative question of what is the optimum level of homogeneity vs. heterogeneity in abilities and traits and how to measure divergences from that optimum in terms of positive and negative externalities from enhancement; the empirical question of how much permitting enhancement will steer us towards or away from that optimum level, whatever it becomes defined as. Finally, even as to this objection a solution is possible. My “gumball solution” is meant to offer a fanciful way of introducing some randomness back in the system, and there may be far more pragmatic (if less fun) ways of implementing that goal, should we be in a situation where homogeneity worries us.

Now that we have a clear idea of what may be wrong with enhancements, as to which type of enhancements, and what role the law has in combatting these concerns, we are ready to shift to the opposite side of the ledger.

IV. WHAT (IF ANYTHING) IS RIGHT ABOUT ENHANCEMENT?

Much less attention has been paid in the literature to the reasons why individuals

problematic for cases of enhancement achieved through selection, so long as the child has a life worth living, for the same reasons that I have argued against Best Interests of the Resulting Child arguments more generally.

choose enhancement, except for the argument by Sandel, Kass, and the like that these motivations—what they call desire to mastery, turning procreation to manufacture, etc.—are themselves something problematic about enhancements. What I want to ask is a more basic question: does the motivation one might offer for choosing to enhance make sense?

What are the possible motivations? One is a desire to achieve positional gains and win the “game of life” or at least a small slice of it. In a regime where everyone will enhance because the enhancements are safe, costless (or subsidized), etc., that desire may be counter-productive and we are better off with an equilibrium where no one can enhance as one where everyone can enhance, except insofar as the existing distribution of talents through the current “random” processes generates more negative externalities. I put “random” in scare quotes because the current process by which genes get transmitted is not really random. Assortative mating, in which individuals with similar genotypes and/or phenotypes mate with one another more frequently than a random mating pattern, leads to particular advantages and disadvantages for their offspring in genetic and environmental terms; American marriage patterns already deeply reflect this tendency with matching on socioeconomic and education levels becoming increasingly common.⁸⁴ Indeed, a Princeton alumna became famous (or infamous) in 2013 for a letter to *The Daily Princetonian* in urging Princeton women to find a husband during their years at Princeton since they would never again have access to as good a “stable” (my term, not hers) of men and would be unhappy if they ended their life with career success but not a suitable husband.⁸⁵

Thus, especially in terms of enhancing our children, it is important to emphasize that we are already deep into a system of enhancement through our marital and non-marital reproductive mate choices. Now, of course, unlike a true enhancement regime, for most of us our assortative mating is not unencumbered by other interests. There is attraction, sex, family life, and of course romance also directing us in our mate selection in ways that might be less-than-optimal from an enhancement perspective (and of course most of the “special sauce” in love is in the less-than-optimal!). For single individuals, same-sex couples, and those with certain forms of infertility or certain genetic diseases, in selecting a sperm or egg “donor” they by necessity are able to make choices that unbundle what would be best from an enhancement perspective from what would be best from a romantic partner perspective. Of course, all of us theoretically could divorce our choices about life partners from our choices about reproduction. If we were willing to give up genetic relatedness, one could just barely imagine a future where *everyone* reproduced via selecting the sperm and egg of others from catalogues. Many would be horrified by such a future, but for now my goal is not to pass judgment but instead to emphasize that given our existing preference structure that attaches some utility to genetic

84. See, e.g., Nancy Leong, *Is Marriage for Rich People? A Book Review of Ralph Richard Banks's Is Marriage for White People?*, 44 CONN. L. REV. 1325, 1334-36 (discussing decline of marriage between individuals of different socioeconomic levels); Linda C. McClain, *The Other Marriage Equality Problem*, 93 B.U. L. REV. 921, 944 (2013) (discussing data showing tendency towards “assortative marriage”).

85. See Susan A. Patton, Letter to the Editor, *Advice for the Young Women of Princeton: The Daughters I Never Had*, DAILY PRINCETONIAN (Mar. 29, 2013), available at <http://thedailyprincetonian.wordpress.com/2013/03/29/opinion-letter-to-the-editor-march-29-2013/>; see also Ross Douthat, *The Secrets of Princeton*, N.Y. TIMES, Apr. 7, 2013, at SR11.

relatedness, there would be costs (in terms of losing that utility and the cost of using the technology) that offset the value of enhancements. Given the well-known divergence between genotype and phenotype, and the fact the latter is what most parents care about when imagining their future children, it may be that in most cases the advantages to having enhanced children through gamete selection may be smaller than those costs.⁸⁶

So if enhancement by selection of gamete providers is the main way to enhance our children genetically these days, for many potential parents the costs may outweigh the benefits. Ironically, the exception is those who cannot reproduce in the “old fashioned” way, that is both the infertile and what I have elsewhere referred to as the “dysfertile”—gays, lesbians, and single individuals who are unable to naturally reproduce for non-medical reasons.⁸⁷ For them enhancement may make the most sense, since they are already giving up genetic relatedness and bearing some of the costs of assisted reproduction.

A different motivation that is sometimes given for enhancement of our children, though, is that it would be good for our children. This is certainly the justification parents use when imposing non-biological enhancement on children before they are old enough to choose—Piano lessons at an early age to enhance musical ability or sports coaching to enhance their ability to play—and even imposing on children once they are old enough to resist—tutoring in math or for the SAT. Can it also serve as the justification for pre-conception or pre-birth enhancements? That is, a reason given by parents for wanting to have children with enhancements is because it will improve the life of those children, they are doing it for themselves. The major contribution I want to make in this Part is to explain why for at least pre-birth enhancements by selection, that reasoning is logically problematic.

The reason is, as I have argued elsewhere, there is a problem in moving from arguments about best interests of *existing* children (i.e., what would make existing children better off) to argument about best interests of resulting children (i.e., what would make children better off by changing which children come into existence through reproduction). That is:

Whenever the proposed intervention will itself determine whether a

86. Note though that, to some extent, this is a function of existing technology of enhancement. If post-conception (or even post-birth) genetic manipulation became possible, safe, and readily available, one might have one’s cake and eat it too by conceiving with a romantic partner and then manipulating one’s offspring to achieve enhancement. In such a potential future world, there would be interesting questions about what the concept of “genetic relatedness” means. In particular, like the mythical Ship of Thebes, if we replace or alter ‘plank’ after ‘plank’ of an offspring’s genotype, at what point does one say the resulting child is not genetically related to its parent? Or is the important relationship for our concept of genetic relation the fact that “original” material came from the parents’ sperm and egg. Cf. Cohen, *Genetic Parent*, *supra* note 76, at 1137 n.63 (discussing the strange case of Tim Twomey, who suffered from anorchia—a rare disorder where he was born with a penis but without testicles—and opted to receive a transplant testicle from his identical twin, Terry, which allowed Tim to produce a son with his wife, instead of having his wife inseminated with his twin’s sperm, and asking whether Tim’s preference for the transplant (which made no difference genetically speaking) captures something about the way we think about reproduction).

87. Dov Fox & I. Glenn Cohen, *It is Time for the U.S. to Cover IVF (for Gays and Lesbians too)*, HUFFINGTON POST, Mar. 18, 2013, available at http://www.huffingtonpost.com/dov-fox/it-is-time-for-the-us-to-_b_2900323.html.

particular child will come into existence, best interest arguments premised on *that* child's *welfare* are problematic.

This point is at the core of the "Non-Identity Problem" developed by Derek Parfit, a problem that has been the subject of a great deal of philosophical attention since the publication of Parfit's *Reasons and Persons* in 1984. The punchline of the problem is that we cannot be said to harm children by creating them as long as we do not give them a life not worth living. A life not worth living is a life so full of pain and suffering, and so devoid of anything good, that the individual would prefer never to have come into existence. As I have demonstrated in *Regulating Reproduction*, this insight renders problematic any attempt to use BIRC reasons to justify a regulation of reproduction that will alter when, whether, or with whom individuals reproduce—such a regulation cannot be said to be in the best interests of the resulting child because a different child will result.

The easiest version of the problem to see involves regulation of whether individuals reproduce, for example, the denials of access to reproductive technology to gay, aged, or single parents. Imagine that sixty year old Ethel wants to have a baby through reproductive technology and assume *arguendo* that this child, Maxwell, will be worse off (physiologically, psychologically, etc.) than would the average child born to a woman in her twenties. We cannot say that a state law preventing Ethel's access to reproductive technology at her age furthers the welfare of Maxwell, because if the State blocks that access Maxwell will never exist and, so long as he has a life worth living, coming into existence does not harm him. Thus, any state intervention influencing whether individuals reproduce (absent lives not worth living) cannot be justified by BIRC reasoning.

A similar problem extends to attempts to influence when and with whom individuals reproduce. Parfit's primary discussion of this problem in *Reasons and Persons* is that of a four-teen-year-old girl who has a child and gives it a bad start in life by not waiting to have a child until she is older. As he notes, "We cannot claim that this girl's decision was worse for her child. What is the objection to her decision? This question arises because, in the different outcomes, different people would be born." Thus, here too the usual (what Parfit calls *person-affecting*) conception of harm assumed by the BIRC argument cannot be the basis for justifying attempts to alter when individuals reproduce—such as state funding of teenage abstinence programs or implanting of Norplant or other temporary forms of birth control in women convicted of multiple counts of drug possession. A similar logic applies to interventions

regulating with whom individuals reproduce, for example, the criminalization of adult brother-sister (or first cousin-first cousin) incest in the United States and many foreign countries.

At this juncture it is worth clarifying that none of this depends on any assumption that children are harmed if they are not brought into existence. Instead, I share with others the view that “no one is harmed in not being created, because there is no one to be harmed if we do not create someone.” Thus, accepting this insight in no way implies a conclusion that parents do wrong by failing to have the largest number of children they can or that they harm a particular child by failing to create the child. All it entails is that no one is harmed by being created if he or she is given a life worth living. I emphasize this point, because it is common source of confusion.

In one respect, the whether case is an easier one for ruling out BIRC justifications than the with whom case, and especially the when case, because in these latter cases the claim depends on the assumption that changing which sperm meets which egg—that is changing which child, genetically speaking, is conceived—is *sufficient* to produce a Non-Identity Problem that rules out BIRC justifications. This is a relatively weak assumption. It does not require subscription to a strong form of genetic essentialism . . . [i]t is the weak claim that if we want to know whether the person that results from the particular sperm and egg combination would be harmed, we cannot say that it would further the welfare of that person if we instead substituted a different sperm and egg combination.

To put it tangibly: my mother was married once, without children, before she had me with her second husband. Imagine we concluded (counterfactually I hope!) that on the day of my conception she had instead conceived with her first husband; the resulting child—call him Gabriel—would have been healthier or in other ways had a better life than I did. All the Non-Identity Problem requires accepting is that if we want to know whether my life harms me (i.e., is Glenn harmed by being alive) it would be wrong to compare Glenn’s life to the life Gabriel would have lived. That comparison might be relevant for some other purposes—indeed the non-person-affecting principle approach I discuss in Part III focuses on it—but is not relevant to the question of whether Glenn has been harmed by being born. I believe Parfit is right on this issue of alterations of *when* or *with whom* we reproduce, and in what follows I will examine the consequences for the law.⁸⁸

88. ALLEN BUCHANAN ET AL., FROM CHANCE TO CHOICE: GENETICS AND JUSTICE 224-25, 233 (2000); JOEL FEINBERG, HARM TO OTHERS 98-104 (1984); Dan W. Brock, *The Nonidentity Problem and Genetic*

My prior work was focused on reproductive decisions by parents that may have the effect of “harming” (though I think that term is logically problematic) the resulting children. Here I want to emphasize that the point holds in the opposite configuration as well. Attempting to enhance one’s children by altering when or with whom one reproduces (e.g., delaying reproduction to a period of time when one has more resources, choosing gamete donors with desirable traits) cannot be said to improve the lives of one’s children, because it instead substitutes *other* children for the children you would have had. Your own children are not made better off if other children replace them in terms of who comes into existence.

Otherwise put, “enhancing one’s child” through selection or timing of reproduction is a misnomer and a logical fallacy. It does not enhance one’s children, but instead replaces them with a different child whose welfare is higher. It is not enhancement but replacement. To be sure, the would-have-been child is not harmed by being “replaced”—no one is harmed by not being brought into existence—but it is also certainly not benefited.

Thus, arguments for enhancement based on improving the welfare of resulting children will not work. Instead they are confused stand-ins for quite different kinds of reasoning. One substitute set of reasons might be about cost to third parties, reproductive externalities.⁸⁹ Enhancement, as I suggested above, may reduce the costs to the parents themselves, other family members, or third parties in society including governments (who may pay directly or otherwise for education, health care, etc.). This may provide a good reason to enhance or to even encourage enhancements through subsidization or even mandating them, but as I have discussed elsewhere, these arguments about reproductive externalities also present some complicated problems.⁹⁰ It may also be desirable from a set of arguments that are called non-person-affecting principles:

One such view suggests the world would be better off, if instead of person *A*, who will experience serious suffering or limited opportunity, person *B*, who will not experience those things, came into existence—that is, “[a]lthough the person born with the condition in question would not have been harmed by birth, the world is better off if a person without that harm had been substituted in his place.” We can also understand this argument to replace the best interests of resulting *children* with the best interests of a resulting *population*, or as an obligation to produce the population of children with the highest welfare possible. It is a claim that the world is better off even though no person is made

Harms—The Case of Wrongful Handicaps, 9 *BIOETHICS* 269 (1995); Cohen, *Beyond Best Interests*, *supra* note 1, at 1208-11 (citing DEREK PARFIT, *REASONS AND PERSONS* 358-59 (1987)); Cohen, *Regulating Reproduction*, *supra* note 1, at 457, 481-513; F.M. Kamm, *Cloning and Harm to Offspring*, 4 *N.Y.U. J. LEGIS. & PUB. POL’Y* 65, 72 (2001); Harold Noonan, *Identity*, *STAN. ENCYCLOPEDIA PHIL.* (Edward N. Zalta et al., eds. 2009), available at <http://plato.stanford.edu/archives/win2009/entries/identity/>; David Shoemaker, *Personal Identity and Ethics*, *STAN. ENCYCLOPEDIA PHIL.* (Edward N. Zalta et al., 2008), available at <http://plato.stanford.edu/entries/identity-ethics/>.

89. See Cohen, *Beyond Best Interests*, *supra* note 1, at 1216-40.

90. See *id.*

better off; the world is better in an impersonal sense.⁹¹

Elsewhere I have critiqued this justification for reproductive regulation, including suggesting it may be hard to morally distinguish from the eugenics movement that is so reviled today.⁹² For present purposes, I just want to emphasize that if parents understood that *this* was the reason why they were actually enhancing their children through selection, it may be that many would not find it so desirable a thing to do. The desire to help our child, to improve his or her welfare, is intuitive and compelling; the desire to replace one possible child with another with higher welfare for the sake of making the world impersonally better is far less so.

If what I have said is correct, attempts to enhance through changing with whom or when we reproduce cannot be justified by an attempt to improve the lives of our children, instead it has to be justified by something like the desire to have better children. In my prior work I have suggested that realizing this problematizes *state* justifications that restrict reproductive choices. The implication for *parental* decision-making is a little less clear. Even if, at a metaphysical level, I think parents are making an error in their reasoning about why they might want to enhance their children, is that an error we should leave well enough alone or one that we should try to correct? Certainly if this incorrect reasoning were to lead to negative consequences, such as parents choosing to have children with high amounts of externalized costs for others under the false belief that this is better *for those children*, I think there would be a strong argument for attempts to re-educate these parents. Where the incorrect belief does not have negative consequences for others, whether the state should expend resources to try and teach people their own reproductive reasoning may be faulty seems more of an open question. I tend to lean towards the idea that education on this point (again assuming I am right about it) is desirable, because I think reproduction is important enough a part of the human existence that we should try to be truth-seekers about it. Moreover, this same faulty reasoning perniciously underlies a large number of reproductive restrictions (on single, older, lesbian and gay individuals and others) that have I discussed elsewhere.

What about genetic manipulation of already-conceived but-not-yet born children? In other work I have examined the opposite configuration, purposefully trying to have children with disabilities, or what I call “intentional diminishment”—for example, deaf parents who seek to have a child who is also deaf. In earlier work I examined whether the same non-identity problem would apply to a pre-birth genetic alteration that could be done to a fertilized pre-embryo that would induce deafness.⁹³ For genetic manipulation that enhances rather than diminishes, though, the analysis is the same: if the genetic manipulation is identity-preserving, then there is no non-identity problem and the genetic manipulation can be said to improve the life of the child. If, by contrast, the manipulation is identity-changing, then the non-identity problem applies and rather than improve the

91. Cohen, *Rethinking Sperm Donor Anonymity*, *supra* note 1, at 441 (quoting John A. Robertson, *Procreative Liberty and Harm to Offspring in Assisted Reproduction*, 30 AM. J.L. & MED. 7, 16 (2004)). See also PARFIT, *supra* note 88, at 359-61, 364-65; Brock, *supra* note 88, at 273 for discussion of the non-affecting-person principle.

92. Cohen, *Regulating Reproduction*, *supra* note 1, at 481-513.

93. See generally Cohen, *Intentional Diminishment*, *supra* note 1.

life of a resulting child you have replaced it with a different child.

Which manipulations are which? As I have written in my prior work:

It seems plausible to me that genetic manipulations are quite heterogeneous and the line between identity preserving and identity changing interventions is unlikely to map onto the line between genetic manipulations and other sorts of interventions. That is, it seems plausible that not all genetic manipulations will change personal identity—imagine a small manipulation that adds a Marilyn Monroe beauty mark above the lip where none would otherwise have been—but other manipulations *do* seem to change the identity of the entity—imagine we replace 75% of your DNA with Donkey DNA to create a human-Donkey hybrid. In between is a vast spectrum of manipulations that produce very hard questions as to the continuity of identity. Even if there were continuity of identity between a deaf-born version of yourself and one that was not deaf-born. . . what if we added blindness to the mix? Now add mental retardation? If we also flipped your X-chromosome for a Y-chromosome and changed your gender (a nondisabling form of genetic manipulation)? And so on. To produce an argument along these lines one would have to specify, within the class of genetic manipulations, which kinds of genetic manipulations are identity preserving and why, an extremely difficult task. . .

Of course, I can simply assert that a particular genetic manipulation was identity changing, but it is not clear to me how we would know if I was “right.” Claims about who we might have been had we been different people may give rise to intuitions, but whatever one’s attitude towards the role of intuitions in moral reasoning generally, the basis for these specific intuitions seem particularly suspect. It is not clear to me from what experiential data I could possibly know if I would have been the same person deaf and not deaf, and I worry that these arguments are unprovable and unfalseifiable. For these reasons, from a legal perspective the game may not be worth the candle.⁹⁴

The same is true for enhancements that manipulate genes. There are some gene manipulations that would no doubt be so radical as a form of enhancement to disrupt identity in the relevant sense, such that we cannot say the child was “improved” but instead the child was “replaced” as surely as if we switched the gametes that gave rise to the child to begin with. Where to draw that line, though, I think is both unknown and potentially unknowable. I simply do not know of a good source of experience or logic by which such a line can be devised.

Moving along the developmental line, what about fetuses? Would genetic or non-

94. *Id.* at 358-59.

genetic alterations to a fetus in order to “enhance” it improve the welfare of that child or replace it with a different child? Answering that question depends on sorting out two complex claims. First, what is the relevant *kind* of identity that matters for enhancement, narrative or numerical identity and non-identity? Second, what are the relevant criteria for the continuation of identity versus its disruption in the relevant sense of identity? These are extremely complex questions—Derek Parfit’s work, in particular, has been seminal on the topic.⁹⁵ While I have touched on this issue elsewhere in my work, I have not taken a definitive position, and for the purposes of this paper will merely sketch broadly two set of different views for identity-continuation (or if you prefer “preservation” rather than “disruption”).⁹⁶ One view associated with John Locke, suggests that psychological continuity in the form of memory is what is required for identity preservation.⁹⁷ Another view, associated with Jeff McMahan, suggests “that an individual’s existence as a moral person begins in the womb, during the last two or three months of a normal pregnancy, when neural activity, which is associated with rudimentary subjective experience, first occurs in a fetus’s brain,” and that only from that point is there identity continuity.⁹⁸ If one thought that these competing views describe the kind of identity relevant to the question of whether you have been harmed or benefited by an intervention, then which of the two views (or others) you adopted would have implications as to whether the fetus that is enhanced through significant genetic or non-genetic enhancement is the same entity or a different entity from the child that ultimately results, and thus whether enhancement has *improved* the welfare of *that child* or replaced it. Of course, as I said above, there are theories (such as non-person-affecting principle and reproductive externalities approaches) where replacement of a child with a higher-welfare child is desirable. But it is important to accept that *that* would have to be the goal of such an enhancement, and not “making the life of my particular child” better. Once again, improvement versus replacement strikes me as a significant distinction both in terms of the moral analysis and what most parents take as their motivation.

V. CONCLUSION

Einer Elhauge, and his unpublished work on the subject, was what propelled me down this rabbit hole, and for that I am deeply thankful. This has been more of an exploration of the topic of enhancement than a straight out argumentative enterprise, but nonetheless I think this paper establishes the following points:

- While bioethicists and lawyers talk about “enhancement” with some frequency, the borders of the concept are not well defined. Moreover, en-

95. See generally PARFIT, *supra* note 88.

96. Cohen, *Intentional Diminishment*, *supra* note 1, at 356-57.

97. See JOHN LOCKE, AN ESSAY CONCERNING HUMAN UNDERSTANDING 335 (Peter H. Nidditch ed., 1975):
[A]s far as this consciousness can be extended backwards to any past Action or Thought,
so far reaches the Identity of that *Person*; it is the same *self* now it was then; and 'tis by
the same *self* with this present one that now reflects on it, that that Action was done.

See also Mary Ford, *The Personhood Paradox and the 'Right to Die,'* 13 MED. L. REV. 80, 87-90 (2005).

98. Rakowski, *supra* note 13, at 1383 n.65 (citing Jeff McMahan, *Wrongful Life: Paradoxes in the Morality of Causing People to Exist*, in RATIONAL COMMITMENT AND SOCIAL JUSTICE: ESSAYS FOR GREGORY KAVKA 208, 210-11 (Jules L. Coleman & Christopher W. Morris eds., 1998)).

hancements are not at all homogenous, so it would be very foolish to try to take a singular position on “enhancement.”

- One can try to slice-and-dice the concept of enhancement in a myriad of ways; Part II of the paper does exactly this, summarizing some divisions made in the literature and adding some novel ones. Some of these divisions seem quite useful to me (e.g., pre vs. post birth enhancement, reversible vs. irreversible) others seem to me not to carry the normative or regulatory weight that some would like to put on them (e.g., biological vs. non-biological, treatment vs. enhancement). For even the ones that *are* useful, though, we must always ask useful for what? Whether a distinction has moral or regulatory significance depends entirely to me on the particular moral or legal question being asked.
- Legal responses to enhancement are often characterized in fairly blunt fashion of permit/forbid. In fact, however, we have many more options pertaining to subsidization, mandating, choice architecture, deprivation of honorifics, etc. Recognizing this panoply of tools also helps us to see that some of the objections raised to enhancement are more easily dealt with through the law than others.
- Though often blended together in policy discourse, there are at least ten different kinds of objections to enhancement (perhaps more depending on how many distinctions one adopts): safety concerns and risks to the enhanced, worsening inequality, coercion due to competition, the value of randomness in distributing honorifics, reduction in compassion and solidarity, externalized costs, disfiguring parent-child relationships, impeding children’s rights to an open future, lack of creativity as enhancers, and fears of homogeneity. Some of these are more persuasive than others, some depend on particular moral or political theory priors while others do not (or depend on different ones), some are more easily dealt with by the law than others, and some pertain to only particular categories of enhancement. I think these distinctions show why one cannot adopt a single policy “on enhancement.” Instead, decision-making has to be done at the level of particular enhancements or, in some cases, categories of enhancements.
- Very little has been written on the opposite question—why we want enhancement and whether it makes sense. Focusing in particular on parental choices to enhance one’s children, I have tried to offer a couple of insights. First, assortative mating is rampant in our society such that enhancements of the kind bioethics and the law talk about is really a special case of a more general (relatively well-accepted) phenomenon in terms of choices made in family formation and partner choice. It is instructive to

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understand in what ways enhancement is or is not special as compared to this case. Second, much of the parental motivation for enhancement lies in securing more positional goods for their children, which in turn depends on lack of access by some parents lest we all end up living in Lake Wobegone. Finally, while many parents may tell themselves that an enhancement is aimed at making their child better off, in the case of enhancement by gamete selection and perhaps some other pre-birth enhancements, these parents are not making their child better off but replacing him with another “better” child. Can that be justified? Perhaps, but justifications for replacement are more controversial and complicated than relying on the shibboleth that everyone would want to help their child be better.