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Genetic Technology and the Virtues:
The Significance of Reason, Care, and Accountability

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Abstract

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Since the mapping of the human genome, it has been the aspiration of biological and medical science to determine the genetic basis of human potential and human fallibility. Like any new technology, gene editing provides opportunities and also creates challenges; legal, scientific, and ethical. Gene therapy is no different, and in many ways, bears uniquely challenging implications. The prospects of gene editing, whether in the form of Crispr or its counterparts, is a challenge that forces us to respond promptly not only as those who value science, innovation, and progress, but as a species which places value in the ideal of human flourishing and expression of good character. Within this debate, this thesis will attempt to carve out a framework for accessing the ethics of genetic technology from the perspective of virtue ethics; an alternative to both the deontological and consequentialist approaches that have dominated much of practical ethics. In this thesis, I describe three central virtues which are relevant to the development and usage of genetic technology: practical reason, care, and civic integrity. Reflections on these virtues will contribute to our understanding of *who* we should be and what should guide our decision making so we can remain ethically vigilant in the face of emerging technology.

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Introduction

Since the mapping of the human genome, it has been the aspiration of biological and medical science to determine the genetic basis of human potential and human fallibility. If successful, the narrative goes, we will be able cure all inheritable diseases, treat acquired illnesses, and prevent all known disabilities. The result has been a burgeoning field of gene therapy, which has produced a wide array of techniques for altering human genes. Among those techniques is Crispr Cas-9, the most affordable and most efficient biological tool developed to date. Crispr, like many biomedical innovations before it, such as stem cell therapy, has been hailed as a method which will provide an avenue to both promoting and restoring human health and enhancing human capacities.

Like any new technology, gene editing provides opportunities and also creates challenges; scientific, legal, and ethical. Gene therapy is no different, and in many ways, bears uniquely challenging implications. The promises and perils of genetic engineering can affect whole populations and entire species, including human beings. Current research sees gene therapy, by way of Crispr, applied to the creation of cancer resistant cells, treatments for inheritable blindness, the development of high yield, disease resistant crops, epigenetic radiation-resistance for soldiers in war zones, and most controversially, the editing of human embryos. These are but a few of its applications, and arguably among the most benign. The more controversial usages of gene therapy occur when we consider modifications that can span *generations*, modifying not only current human and non-human subjects, but all future ones as well.

The prospects of gene editing, whether in the form of Crispr or its counterparts, is a challenge that forces us to respond promptly not only as those who value science, innovation, and progress, but as a species which places value in the ideal of human flourishing and expression of good character. We must understand the ethical challenges of Crispr and its related technologies and seek a framework to access its development and application.

This has been done, thus far, by considering the ways in which gene modification contributes to human welfare; maximizing our abilities to fight disease and illness. These frameworks are driven by consequentialist conceptions of human well-being, in terms of hedonism or desire-satisfaction. Other frameworks are deontological, deciding on the right principles that should govern research bodies and medical institutions. Some derive from natural law, drawing careful boundaries between what are *treatments*, which gene editing promises deliver, and what are *enhancements*, which gene editing will theoretically make possible and which many ethicists and political theorists find worrisome. The gulf between *bioconservatives*, those who reject enhancements, but are cautiously accepting of new treatment options, and *bio-liberal consequentialists*[1], those who believe it is permissible, if not obligatory, for us to both develop treatments and enhancements for the human species, is now politically and philosophically hazardous. Within this array of political and ethical constructs, the

[1] This is not a term that is current in the literature, to my knowledge. I do not claim that any current scholar would self-identify as a 'bio-liberal consequentialist', however I think this label captures a prominent position in the current debates over genetic enhancement. Important to note, however, is that 'bio-liberals' need not be consequentialists, as deontologists, natural law theorists, and virtue ethicists could also take liberal positions on these matters.

arguments operate at a level of abstraction that has attracted much attention and much criticism.

The attention is largely academic, and the criticism is largely against the high-minded, impractical academic attempt at theorizing our way towards solutions to pressing ethical concerns. So is the case in the realm of genetic technologies, which is what this essay will address in some detail. What I hope to show is, not that the dichotomous academic sparring partners are wholly wrong in their intentions or in their growing bodies of work, but that there are other voices and other concepts that must play a role in how we ethically address and proceed with genetic innovation. Principally, I have in mind the views within feminism, critical disability studies, and virtue ethics.

Within this debate, this thesis will attempt to carve out a framework for accessing the ethics of genetic technology from the perspective of virtue ethics; an alternative to both the deontological and consequentialist approaches that have dominated much of practical ethics. From the perspective of contemporary virtue ethics, of which there are several kinds, the question of gene editing is not to be decided purely on the basis of its consequences, or its compliance with moral precepts, but to what degree it reveals a commitment to the goods of a flourishing human life and is consistent with virtues necessary to achieve those goods.

Of these three methodological and normative disciplines, virtue ethics has the most substantial presence in contemporary Anglo-American moral philosophy, though perhaps not in practical ethics. Regardless of its growing loyalties in ethical theory, virtue ethics provides a way of looking at ethical issues that focuses on excellent dispositions, character, social and particular relations, and ultimately, on *persons*.

Questions about duty and utility, while indispensable, are simply inconsequential if not upheld and produced by persons of stable motive and intention.

The structure of the thesis will be divided into five chapters. First, I will survey a brief literature of gene editing and differentiate Crispr from rival technologies. Currently, and for the time being, Crispr Cas-9 is the most funded and probably the most widely used genome editing mechanism and this makes it a candidate for ethical examination. Further, because of recent controversies regarding the usage of Crispr to participate in *germline* editing, it is all the more necessary to regard this technology as a one that must be governed by ethical guidelines.

The second chapter will be devoted to a discussion of virtue ethics as an approach. Though an exhaustive treatment is impossible, I hope to show some of the basic divisions within virtue ethics and outline a broad approach for the thesis. Rather than narrow down to a particular kind of virtue ethic, I will simply describe the relevance of character, emotion and motive and how these influence an account of practical reasoning.

In the remaining three chapters of the thesis, I will describe three central virtues which are relevant to our explorations of genetic technology. The third chapter will address *practical reason* through the work of American philosophers Martha Nussbaum and John Dewey. Nussbaum's sympathetic rendering of Aristotle and the classical virtue of *phronesis* brings out the incommensurability of value, the importance of particularity, and the value of moral perception. John Dewey, from his perspective as an educational reformer and pragmatist, offers a view of practical reasoning as *dramatic rehearsal,* an experimental process of projecting future possibilities and acting so as to reach the best available ends.

The fourth chapter will turn to an exploration of *care*, as it has been developed by feminists and virtue ethicists. Important for this chapter is a detailed account of human nature, particularly our dependence, vulnerability, and the role of disability in human life. From philosophers and disability scholars like Alasdair MacIntyre, Eva Feder Kittay, and Rosemarie Garland-Thomson, we can begin to see why care and reciprocal practices of caring are of such importance and why we must keep care at the forefront of our thinking about genetic technology.

In the fifth and final chapter, I will turn to Margaret Urban Walker's work on historical *accountability* and the virtues of civic integrity. These virtues point to the importance of narrative, history, and the relevance of keeping our cultural and sociological inheritance in view. In this chapter, we will note the continuing significance of eugenics through its sorted history and how the continuing efforts to develop genetic therapies and to genetically modify human embryos may be undoubtedly following these historical precedents. The virtues of accountability and integrity, properly cultivated and displayed, may assist us in avoiding these mistakes.

In conclusion, we will address how these virtues might be connected to one another. The rules and regulations that govern the research, development, and implementation of genetic intervention, if not guided by persons with the relevant dispositions and values, as in past innovations, will prove ineffective. It is only by understanding *who* we should be and what *virtues* should guide our decision making that we can remain ethically vigilant in the face of emerging technology.

Chapter One: Gene Therapy and Crispr Cas-9

According to Theodore Friedman, the 60s and 70s marked major advances that permitted our future capacity for genetic therapy.[2] This time period was characterized by the efforts to develop stable cell lines into which foreign DNA could be introduced. The goal was to successfully integrate genetic material which could be reliably absorbed by the host and eventually inherited so that one could alter or 'correct' genetic information. However, transmission methods attempted by researchers were ineffective during this time and the search for more reliable methodologies became a focal point. The 60s marked a discovery that:

> in the course of transforming a cell from the normal to the neoplastic phenotype, the papovaviruses SV 40 and polyoma integrated their genetic information or specific transforming regions covalently, stably and heritably into the genomes of target cells. It also became evident that at least a portion of the transferred viral genome remained expressed in the "transformed" cells. In effect, these infectious agents had evolved to perform precisely the function that was required for the eventual development of clinically useful gene transfer.[3]

Though a modest step forward, there was still no artificial, manipulable mechanism for modifying viruses to express foreign genes. Despite many failed experiments during the late 60s, Friedmann reports that the enthusiasm for future genetic therapies was growing. This confidence grew, in part, because of studies by Waclaw Szybalski, who published a paper showing that a genetic defect could be rescued by transferring

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[2] Friedman, T. A Brief History Of Gene Therapy. *Nature Genetics* 2, 93–98 (1992).

[3] A Brief History Of Gene Therapy, 93.

functional DNA from a foreign source.[4] Moreover, he demonstrated that the rescued gene could be inherited, as the offspring's cells bore the same phenotype, as the transformed parent cells. The results of his study became the first documented evidence of heritable gene transfer in mammalian cells.

More than a decade later, Howard Temin discovered that in a similar fashion specific genetic mutations could be inherited as a result of virus infection.[5] Based on his experimental observations he concluded that chicken cells infected with the Rous sarcoma virus (RSV) stably inherited viral specific gene mutations that contained the information for the generation of RSV progenies. This observation became of great significance, as it unveiled the conundrum that genetic information could flow only from DNA to RNA. This discovery, along with contributing studies by Edward Tatum in 1966, helped to establish that viruses possessed properties that could be very useful in delivering genes into cells of interest. Accumulating evidence of successful cell transformation studies gave rise to the thought that genetic engineering may become a new approach for treating genetic diseases.[6]

More than two decades later, Martin Cline became the first to attempt gene therapy using recombinant DNA. Cline and his colleagues had already succeeded in

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[4] Szybalska, E.H., Szybalski, W., 1962. Genetics of human cess line. IV. DNA-mediated heritable transformation of a biochemical trait. Proc. Natl. Acad. Sci. U. S. A. 48, 2026–2034

[5] Temin, H.M., 1961. Mixed infection with two types of Rous sarcoma virus. Virology 13, 158–163.

[6] Tatum, E.L., Lederberg, J., 1947. Gene Recombination in the Bacterium Escherichia coli. J. Bacteriol. 53, 673–684

experimentally inserting foreign genes into mouse bone marrow stem cells.[7] Furthermore, they were able to demonstrate that these modified cells were able to partially repopulate the bone marrow of other animal subjects. Given these successful trials, Cline aimed to apply this therapeutic approach in humans, specifically treating patients suffering from β-thalassemia.[8] Cline initiated the study and extracted bone marrow cells from two β-thalassemia patients.

In September of 1990 the FDA approved the first gene therapy trial with a therapeutic attempt in humans. Two children suffering from adenosine deaminase deficiency (ADA-SCID), a monogenetic disease leading to severe immunodeficiency, were treated with white blood cells taken from the blood of these patients and modified ex vivo to express the normal gene for making adenosine deaminase. One patient, Ashanti DeSilva, exhibited a temporary response, whereas the response in the second patient was far less.[9] Even though these FDA approved studies did not come up with the results that were expected, gene therapy experienced a boom, until the tragic death of Jesse Gelsinger.

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[7] Mercola, K.E., Bar-Eli, M., Stang, H.D., Slamon, D.J., Cline, M.J., 1982. Insertion of new genetic information into bone marrow cell

[8] This condition invariably results in severe and life-threatening anaemia due to a deficiency in the production of the beta-globulin portion of haemoglobin protein (due to a genetic defect/absence of the beta-globulin gene), for which the only treatment relies on frequent blood transfusion.

[9] Blaese, R.M., Culver, K.W., Miller, A.D., Carter, C.S., Fleisher, T., Clerici, M., Shearer, G., Chang, L., Chiang, Y., Tolstoshev, P., Greenblatt, J.J., Rosenberg, S.A., Klein, H., Berger, M., Mullen, C.A., Ramsey, W.J., Muul, L., Morgan, R.A., Anderson, W.F., 1995. T lymphocyte-directed gene therapy for ADA-SCID: initial trial results after 4 years. Science 270, 475–480

Eighteen year old Jesse Gelsinger took part in a gene therapy clinical trial at the University of Pennsylvania in Philadelphia. He suffered from a partial deficiency of ornithine transcarbamylase (OTC), a liver enzyme that is required for the removal of excessive nitrogen from amino acids and proteins.[10] Gelsinger's immune system responded immediately after a very high dose of adenovirus administration and he died four days later because of multiorgan failure, becoming the first patient whose death could be directly linked to the viral vector used for the treatment. Despite the public outcry and the temporary ceasing of all research, enthusiasm for the genetic remedies for disease continued.

According to Thomas Wirth and his colleagues, gene therapies are currently being used in treatments for cancer and monogenetic and cardiovascular diseases. Arguably, according to them, gene therapy will one day be a standard form of treatment for many diseases.[11] Though this prediction has not proven true, yet, the hope to develop clinically successfully and reliably safe gene therapies has driven biotechnology to unexpected advancements.

Today the development of gene therapies as a means of treatment (and enhancement) are still on the horizon and in progress. Much of this is driven by the discovery of clustered regularly interspaced short palindromic repeat, or CRISPR. These repeated strands of DNA operate as an immunity system for many forms of bacteria and archaea. The first inkling of these repeated genetic sequences was observed in the 1980s,

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[10] Stolberg, S.G., 1999. The biotech death of Jesse Gelsinger. N.Y.Times Mag. 136-140, 149- 150.

[11] Wirth T., Parker N., Ylä-Herttuala S., History Of Gene Therapy. *Gene* 525, 2013. 162-169, 165.

by Yoshizumi Ishino and his colleagues, during a study on phosphate metabolism in genes. However, because of a lack of DNA sequence data it was impossible to determine their function. After 1993, as we entered into a genomic period, Crispr was observed in multiple bacteria and archaea. Because of its consistency across these two domains of life, interest in this genetic sequence grew and it became more imperative to discover its function.

Automated genetic sequencers made this possible. The unusual repeated sequences interspersed with non-conserved sequences were first detected in E. *coli* and H. *mediterranei* and were identified and described using different names by different authors, such as short regularly spaced repeats (SRSRs), spacers interspersed direct repeats (SPIDRs), and large cluster of tandem repeats (LCTRs). Mojica et all were the first to discover a functional similarity between these repeated sequences.[12] Jansen et all eventually named the sequence CRISPR, which gained general acceptance among researchers going forward.[13]

Comparative genomic research gradually found common characteristics of the CRISPR: First, they are located in intergenic regions, second, they contain multiple short direct repeats with very little sequence variation, third, the repeats are interspersed with non-conserved sequences, and fourth, a common leader sequence of several hundred base pairs is located on one side of the repeat cluster. Further, interest in these mysterious sequences was driven by the fact that CRISPR sequences were found

[12] Mojica FJ, Díez-Villaseñor C, Soria E, Juez G. 2000. Biological significance of a family of regularly spaced repeats in the genomes of archaea, Mol Microbiol 36:244 –246.

[13] Jansen R, Embden JD, Gaastra W, Schouls LW. 2002. Identification of genes that are associated with DNA repeats in prokaryotes. Mol Microbiol 43:1565–1575.

in nearly all archaeal genomes and in about half of bacterial genomes, making them the most widely distributed family of repeated sequences in prokaryotes.

The function of these repeated sequences was discovered separately by Mojica et al and Pourcel et al who independently proposed that CRISPR sequences function in the framework of a biological defense system, similar to the eukaryotic RNAi system which protects cells from the entry of foreign genetic elements.[14] More importantly for future gene therapy research, the two groups also identified that CRISPR could somehow capture pieces of foreign DNA, convert it to memory and use it against future genetic aggressions. It is noteworthy that these discoveries and their subsequent publications were underappreciated at the time.[15]

The expanding capacity to sequence genomes at the beginning of the 21st century enabled scientists to study the genomic context of CRISPR regions in many organisms. This led to the discovery of four conserved genes that adjacent to the CRISPR regions. They were dubbed CRISPR-associated genes (cas1 to cas4). Of these, Cas3 and Cas4 were found to be involved in DNA metabolism, DNA repair and recombination, transcriptional regulation, and chromosome segregation.

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[14] Mojica FJM, Díez-Villaseñor C, García-Martínez J, Soria E. 2005. Intervening sequences of regularly spaced prokaryotic repeats derive from foreign genetic elements. J Mol Evol 60:174 –182. Pourcel C, Salvignol G, Vergnaud G. 2005. CRISPR elements in Yersinia pestis acquire new repeats by preferential uptake of bacteriophage DNA, and provide additional tools for evolutionary studies. Microbiology 151: 653– 663.

[15] See Ishino, Y., Krupovic, M., & Forterre, P. (2018). History of CRISPR-Cas from Encounter with a Mysterious Repeated Sequence to Genome Editing Technology. *Journal of Bacteriology, 200*(7).

It was experimentally shown in 2007 that CRISPR-Cas systems are collectively involved in cell immunity.[16] Barrangou et all found that the insertion of a phage sequence into the spacer region of the CRISPR of S. *thermophilus* made this strain resistant to the corresponding phage. However, this bacterial resistance to the phage infection disappeared when the corresponding protospacer sequence was deleted from the phage genome. Hence, the functional significance of CRISPR-Cas in defending the bacteria against infection.

CRISPR-Cas systems are diverse and do not all serve the purposes of genomic engineering. It was found that Cas9, a crRNA-dependent endonuclease (comprised of RuvC and HNH), which is responsible for cleavage of displaced (nontarget) and target DNA strands, provides the most promising avenue for artificial genomic intervention. DNA toolkits based on CRISPR-Cas technology for genome editing, gene silencing, and genome-wide screening of essential genes in bacterial and archaeal genomes have gradually progressed.[17] Aside from genomic editing, CRISPR technology has been used for species identification and genetic typing, in Salmonella spp.[18] and Corynebacterium

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[16] Barrangou R, Fremaux C, Deveau H, Richards M, Boyaval P, Moineau S, Romero DA, Horvath P. 2007. CRISPR provides acquired resistance against viruses in prokaryotes. Science 315:1709 –1712

[17] Jiang W, Bikard D, Cox D, Zhang F, Marraffini LA. 2013. RNA-guided editing of bacterial genomes using CRISPR-Cas systems. Nat Biotechnol 31:233–239. Gophna U, Allers T, Marchfelder A. 2017. Finally, archaea get their CRISPR-Cas toolbox. Trends Microbiol 25:430 – 432.

[18] Liu F, Barrangou R, Gerner-Smidt P, Ribot EM, Knabel SJ, Dudley EG. 2011. Novel virulence gene and clustered regularly interspaced short palindromic repeat (CRISPR) multilocus sequence typing scheme for subtyping of the major serovars of Salmonella enterica subsp. enterica. Appl Environ Microbiol 77:1946 –1956.

diphtheriae.[19] CRISPR-Cas9 has also been used as an antimicrobial agent by cleaving the genomes of pathogenic bacteria and is expected to be a valuable remedy for the control of antibiotic-resistant bacteria.

In mid 2019, more than a dozen clinical trials were underway using Crispr Cas-9 on human subjects. In China, the first gene therapy trials have commenced with the intention of treating cancer.[20] The treatment involves procuring a blood sample, from which they extract T cells. Crispr is used to cut out a gene in the cells referred to as PD-1 (a checkpoint protein in immune cells). It is assumed to this modification will result in a T cell that can more efficiently attack cancer cells. Once modified, the patient receives an infusion of the new T cells. Other trials involve the reprogramming of cells to prevent or delay decaying eyesight,[21] and modifying blood stem cells to fight sickle cell disease.[22]

Many of these therapies, if proven to be safe, reliable, and effective, would hardly provoke ethical or social outrage. The concerns about Crispr Cas-9 arise, first and foremost, because of the risks inherit in its development and application, and second, because of the more questionable, and likely usages of it. Most troubling is usage of

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[19] Mokrousov I, Narvskaya O, Limeschenko E, Vyazovaya A. 2005. Efficient discrimination within a Corynebacterium diphtheriae epidemic clonal group by a novel macroarray-based method. J Clin Microbiol 43: 1662–1668.

[20] Normile, D. "China Sprints Ahead in CRISPR Therapy Race." *Science* 358, no. 6359 (May 2017): 20-21.

[21] Maeder, M.L., Stefanidakis, M., Wilson, C.J. *et al.* Development of a gene-editing approach to restore vision loss in Leber congenital amaurosis type 10. (2019) *Nature Medicine* **25,** 229–233.

[22] Hoban, Megan D, Dianne Lumaquin, Caroline Y Kuo, Zulema Romero, Joseph Long, Michelle Ho, Courtney S Young, et al. "CRISPR/Cas9-Mediated Correction of the Sickle Mutation in Human CD34 Cells." *Molecular Therapy* 24, no. 9 (2016): 1561–69.

Crispr for *germline* genetic engineering, a process that would affect large scale, future populations.[23] It is for this reason that some prominent institutions have declared a 'moratorium' on germline gene editing.[24]

Crispr represents a new technique for a persisting set ambitions. The ethical worries, far from being new, are related to the early successes of Crispr technologies and also the impending world that such technology produce. While we are right to worry about the wide reaching biological consequences of germline editing, we also need to worry about the ways in which our societal structures may be rearranged, our health and economic inequities further exacerbated, and our reproductive practices invariably complicated and commoditized. These are significant changes which can go unnoticed by the general population, who are often inattentive and misinformed by conflicting political commentary and fragmentary scientific information.

In response to these difficulties, it is necessary to carefully engage ethical constructs, ideals, and values that should guide our thinking and revise the conversation. In the next section I will describe one approach which is often marginalized in discussions of larger biomedical issues. Virtue ethics, far from being on the fringe of moral philosophy, is now a highly respected theory and is well worth considering in our evaluations of genetic technology. In later chapters, we will consider how virtue ethics might engage with other ethical constructs, specifically from feminism and disability studies.

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[23] The treatments and procedures listed above are all *somatic* therapies, which involve the modification of existing cells *only*; the changes will not be passed on to the offspring of the person receiving the therapy.

[24] Wolinetz, Carrie D., and Francis S. Collins. "NIH Supports Call for Moratorium on Clinical Uses of Germline Gene Editing." *Nature* 567, no. 7747 (2019): 175–75.

Chapter Two: Virtue Ethics

Much of what we identify as 'virtue ethics' today is a derivative of ancient ethical accounts offered by Plato, Aristotle, and the Stoics, in the Western tradition, and Mencius and Confucius in the East. Virtue ethics, in these historical periods, was a view about ethics that placed central importance on a holistic vision of human life; ethics was about how to live well as a human being. The word most commonly discussed in ancient ethics is *eudaimonia*, which does not translate easily in modern english, but has come to mean 'happiness' or perhaps more accurately, 'flourishing'. E*udaimonism,* was a theory about the relationship between *arete*, or excellence, and how we as human beings can come to live well, or be *eudaimon*.[25]

Despite these ancient roots, it has been pointed out by Christine Swanton that virtue ethics is a *genus* within ethical theory, not a species.[26] Contemporary 'virtue ethics' is a name given to several different approaches in moral philosophy, which makes it somewhat difficult to explain what an ethic of virtue is and how it is distinct. At minimum, virtue ethics is a trend in contemporary moral thinking that marks a shift towards thinking about the character, dispositions, and emotions of agents and their relationships with the world. Those theories that fall under the genus typically place foundational or primary value on the evaluation of agents, and the constituents of their agency, as opposed to the state of affairs brought about by their actions or the

[25] For a philosophical history and analysis of *eudaimonism* in ethics, see Annas, J. (1993). *The morality of happiness*. New York: Oxford University Press.

[26] Swanton, C. (2003). *Virtue ethics : A pluralistic view*. Oxford ; New York: Oxford University Press.

obligations that they freely adopt. This is not always the case, as virtues have often been derived from or associated with more central concepts, such as consequences and duties.[27] It is an additional feature that virtue ethics is widely associated with a rise in moral *particularism*, as virtue ethicists tend to focus on the concreteness of ordinary experience and tend to affirm theories of moral justification through the contextual features of each situation, as opposed to appealing to general moral precepts or impartial theories of value.[28]

One way of determining what virtue ethics is in contemporary thought lies in a popular historical narrative about its revival. Virtue ethics was a dominant mode of thinking in the ancient world and held sway through much of the medieval period. However, in the major theories proposed by Aristotle, Plato, and the Stoics, virtues were understood within a *teleological* conception of the world; a view that objects and entities are purposeful, and all things had definable ends, or a *telos*. This included the lives and actions of human beings, who were held by Aristotle to be essentially *rational, political* animals. However, in the early modern period, as this teleological framework came into doubt because of the looming scientific revolution it was eclipsed by legalistic forms of natural law, divine command ethics, and later a rise in secular moral thinking characteristic of the Enlightenment.[29] Virtue ethics, along with

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[27] For a consequentialist version, see Driver, J. (2001). *Uneasy virtue* (Cambridge studies in philosophy.) Cambridge ; New York: Cambridge University Press.

[28] For differing perspectives, see Hooker, B., & Little, M. (2000). *Moral particularism*. Oxford : New York: Clarendon Press ; Oxford University Press.

[29] For two rival histories of these events, see MacIntyre, A. (2007). *After virtue : A study in moral theory* (3rd ed.). Notre Dame, Ind.: University of Notre Dame Press and Schneewind, J. (1998). *The invention of autonomy : A history of modern moral philosophy*. Cambridge ; New York: Cambridge University Press.

the teleological metaphysics that often accompanied it, was abandoned in favor of Kant's moral rigorism and Mill's reformed utilitarianism.

In the mid-twentieth century, however, certain historical "accidents" made it possible to begin recovering some ethical precepts from these abandoned traditions. The Second World War caused massive migration for many across Europe, who fled to America and the British Isles in search of safety. Among them were classicists and philosophers, some of whom resumed their studies in universities throughout Britain and the United States. Most important, during this period, was the work of several Oxford housed philosophers and essayists, including Elizabeth Anscombe, Philippa Foot, Iris Murdoch, Mary Midgley, and also Simone Weil.[30] Though Anscombe is cited most frequently as the main catalyst for a revival of an ethic of virtue, these additional thinkers played a vital role in rediscovering, teaching, and encouraging others to pursue ethical motifs from this period. Anscombe's 1958 piece, "Modern Moral Philosophy," which was a scathing attack on secular forms of deontology and what she coined as 'consequentialism' encouraged a return to a form of ethical thinking articulated by Aristotle. In addition, she called for philosophers to cease theorizing about ethics without first considering coherent theories of action, intention, and emotion. Though the essay did not make an impact on her colleagues, Anscombe's insights provided a historical pivot for future criticisms of moral philosophy and inspired generations of ethical thinkers.

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[30] For details about these oxford philosophers and their relationship, see "Ethics In A "World Of Women": Elizabeth Anscombe, Philipa Foot, Mary Midgley, and Iris Murdoch" an unpublished lecture by Rachael Wiseman and Clare MacCumhaill.

As David Solomon recounts, the Anscombean critique was a moment in the history of philosophy that marked an opportunity for a new kind of ethical theory, or rather a new way of conceiving what it was to think about ethical life.[31] This new kind of theory would be a 'radical virtue ethics,' distinct from its deontological and consequentialist rivals, and free from modern assumptions about what moral theories are meant to provide. However, despite the attention that this narrative has been given, and despite Anscombe's intentions, what has often emerged in contemporary ethical theory is what Solomon calls 'routine' virtue ethics; theories which follow the patterns and dominant themes of moral modernism, but with virtue playing a more substantial role. This divide, between 'radical' and 'routine' virtue ethics, is an important distinction and one which is often glanced over by many who work on virtue ethics.

Virtue ethics, as a radical enterprise, should avoid the mistakes made by modern theories and abandon some of the empirically untenable positions held by its original founders. Aristotle's teleological conception of human nature, while still vaguely appealed to, must also be tempered to avoid his demeaning views of women and their psychological capacities, as well as his views of 'natural slaves' in the *polis*. While Aristotle was right to give emotions a prominent place in his moral psychology, it is necessary to question whether reason and rationality should be the characteristic feature of human beings.

As a modern theory, virtue ethics should avoid implausible accounts of moral objectivity which rely on a "view from nowhere" or any perspective that supposes that

[31] See Solomon's "Virtue Ethics: Radical or Routine?" in DePaul, M., & Zagzebski, L. (2003). *Intellectual virtue : Perspectives from ethics and epistemology*. Oxford : New York: Clarendon ; Oxford University Press.

we can stand outside of our practices and social influences. It should avoid moral knowledge grounded solely on intuition, which is almost guaranteed to implicitly reinforce cultural prejudices and sustain unjust practices. Virtue ethics, though connected to an account of *human* flourishing, should avoid trans-historical accounts of nature that are exclusionary or empirically unsound. Virtue ethics should account for the importance of personal and social narratives in the moral life. Virtue ethics should not deny the possibility of moral dilemmas and avoid over conceptualizing moral action and choice. Finally, virtue ethics should be descriptive, taking account of other disciplines, such as psychology, anthropology, history, and sociology. Virtue ethics, from this perspective, must be holistic, grounded in traditions, interdisciplinary, narratively enriched, and responsive to the ambiguity of lived experience. These are all things which modern ethical theories tend to avoid or to downplay.

The present essay seeks to utilize an 'ethic of virtue' to examine a problem in biomedical ethics, but in order to do so I must carve out a perspective in this rich taxonomy of theories. My aim, in the remaining sections of this chapter, is to 1) provide an account of what virtues are, while connecting it the importance of character, and 2) provide a sketch of how virtues are typically related to ethical decision making. Though this second step is awkward for virtue ethics, it is necessary to begin thinking about how we should think about character and right action.

Virtue and Character

The Greek word for virtue is *arete* which denotes 'excellence' in sense of a practical, and persistent disposition to think, act, and feel correctly within a certain

domain of activities. This continuity between feelings, actions, and reasons is a stable of both Stoic and Aristotelian theories, as Aristotle writes:

> By virtue I mean virtue of character; for this is about feelings and actions, and these admit of excess, deficiency, and an intermediate condition. We can be afraid, for instance, or be confident, or have appetites, or get angry, or feel pity, and in general have pleasure or pain, both too much and too little, and in both ways not well. But having these feelings *at the right times*, about *the right things*, towards *the right people*, for *the right end*, and in *the right way*, is the intermediate and best condition, and this is proper to virtue. (*Nicomachean Ethics*, 1106b15-20)

To have a virtue, for Aristotle, is to have one's actions and feelings conform to a *mean*: a state of being balanced between reactions that would be excessive and deficient. Among many examples Aristotle gives is generosity, which he understands as a virtue associated with wealth.[32] To act and feel rightly with respect to wealth means taking and spending for the right purposes and at the right times. Giving beyond one's means, even to a good cause, would be excessive. Giving to a unworthy cause, even moderately, would inappropriate and wasteful. To be generous is to be *thoughtful* about who shall be the best beneficiary of your wealth, as well as what you can afford to give that does not compromise your ability to live well. Additionally, to assuming wealth *moderately* and *appropriately* is the mark of the generous person. Further, the virtue of generosity, like other virtues, requires the correct emotional response along with the right action. Feeling remorse after giving is incompatible with generosity, just as guilt is an improper feeling when one has taken money that one is rightly owed.

Virtues are, thus, emotive socio-cognitive traits that enable us to function and thrive more productively – they are, as Nancy Snow suggests -a kind of "social

[32] *Nicomachean Ethics* 1120a.

intelligence."[33] This is not to say that virtues are to be prized only for their capacity to bring about good states of affairs; that their value is purely instrumental. Virtues are *instrumental*, in the sense that developing them can assist us in acquiring a range of goods that we desire, but they are also *constitutive* of good human behavior; they make human social lives possible.[34] Important to the concept of a virtue is its being *intrinsically* good and worthwhile.

An initial problem that emerges from the characterization of above is the problem of cultural relativity. Different traditions, both within and between different cultures, prize and extol different virtues. Aristotle, for example, lifted up magnanimity and pride as a moral virtues, whereas the Judeo-Christian tradition prizes humility. How are we adjudicate between traditions, or solve problems that arise between conflicting sets of virtues. One way, as noted above, is to specify virtues as excellences that manifest in and through various kinds of activities; to narrow down further on the underlying conception that people have when discussing virtues. This was the strategy in Alasdair MacIntyre's early work in *After Virtue*, where he defines a virtue as, "an acquired human quality the possession and exercise of which tends to enable us to achieve those goods which are internal to practices and the lack of which effectively prevents us from achieving any such goods."[35]

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[33] Snow, N. (2010). *Virtue as Social Intelligence An Empirically Grounded Theory*. Hoboken: Taylor and Francis.

[34] The relationship between the instrumental and intrinsic value, or if you like, the external and internal goods of virtue is a complex one, both in Aristotle and in contemporary writing. For more, see chaps. 14 and 15 and MacIntyre's *After Virtue* (2007), and chps. 3 and 4 of Sherman's *The Fabric Of Character* (1991).

[35] *After Virtue,* 191. One addition must be made to this definition: First, MacIntyre's ponderous definition of a practice which he says is, "any coherent or complex form of socially established cooperative human activity through which goods internal to that

Thinking about virtues in this way connects a number of important concepts in ethical theory that bear on ordinary human activities. In thinking about virtues as involving a continuity between emotions and actions, we consciously reject the naïve view that emotions bear no significance to how we think and decide how to act. In connecting virtues to practice and the achievement of goods, we make the connection between the content of a person's character and the social structures that enable character and also we forge a deeper connection between character, ethical commitments, and practical living; these are dynamic, interdependent concepts.

In her work, Julia Annas makes this point more concrete by discussing the *experience* of being a virtuous person alongside contemporary perspectives in social psychology.[36] Drawing from Aristotle, she agrees that virtuous activity, when performed, is *pleasant* to the person. To act virtuously is not to do so cautiously, resentfully, or hesitantly, but rather it is 'unimpeded' by negativity. This does not mean that acting rightly is bereft from thoughtfulness, introspection, or even from difficultly. It does mean that when a person is virtuous, they are able to act virtuous from a stable and persistently active habit and also with a positive appraisal of her activity. In positive

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form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended." (*After Virtue*, 187.)

[36] Annas, J. (2007) "The Phenomenology of Virtue." *Phenomenology and the Cognitive Sciences*, vol. 7, no. 1, pp. 21–34.

psychology, in the work of Mihalyi Csikszentmihalyi, this phenomena is called 'flow'; a feeling of being totally immersed in one's activity.[37]

Virtue Ethics and Right Action

It has been a longstanding criticism of virtue ethics that it cannot produce a procedure for right action In an influential essay by Robert Louden, the problem is stated as such:[38]

> …for virtue ethics the central question is not "What ought I to *do*?" but rather "What sort of person ought I to *be*?" However, people have always expected ethical theory to tell them something about what they ought to do, and it seems to me that virtue ethics is structurally unable to say much of anything about this issue. If I'm right, one consequence of this is that a virtue-based ethics will be particularly weak in the areas of casuistry and applied ethics.[39]

Since this essay appeared, there has been significant work done to remedy this perceived deficiency, notably by Rosalind Hursthouse, Christine Swanton, Michael Slote, and more recently by Julia Annas, whose views I will focus on below.[40]

Virtue ethicists such as Rosalind Hursthouse have focused on creating accounts of right action that mirror fellow Kantians and Utilitarians, adopting a simplistic

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[37] Csikszentmihalyi, M. (2008). *Flow : The psychology of optimal experience* (1st Harper Perennial Modern Classics ed., Harper Perennial modern classics. New York: Harper Perennial.

[38] See Louden, R. (1984). On Some Vices of Virtue Ethics. *American Philosophical Quarterly, 21*(3), 227-236.

[39] Ibid, 229.

[40] For a detailed exposition on all these accounts, see "Virtue Theory and Applied Ethics" in Hooft, S. V., & Athanassoulis, N. (2014). The handbook of virtue ethics. Durham: Acumen.

deductive structure.[41] For hedonistic utlitarians, individual actions are derived from impartial directive: An is right if it produces a greater quantity of pleasure, satisfaction, or benefit, and minimizes pain, discomfort, or burdens. For Kantians, arguably, actions are right (or at least permissible) if they can be universalizable, and if performing them does not use other humans as *merely* a means to other ends; it respects their dignity as fellow autonomous agents. In like manner, Hursthouse states that:

1. An act is right if it is what a virtuous agent would characteristically do in the circumstances.
2. A virtuous agent is one who has the virtues.
3. The virtues are character traits that assist a person in living well as a human being.[42]

This is an *agent centered* account of right action, and has attracted a significant amount of attention in applied ethics. Hursthouse's basic contention was, and has continued to be, that virtue ethics is capable of creating a decision procedure that parallels Kantian and Utilitarian rivals and, therefore, will not be silent on practical matters. As influential as this account is, I will put it aside.

In Julia Annas' recent work on virtue, she shifts the focus away from creating 'decision procedures' and instead attempts to explain how virtue and vice terms can both assist us in explaining when our actions are right or wrong and also account for the

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[41] Hursthouse, Rosalind. *On Virtue Ethics*. Oxford ; New York: Oxford University Press, 1999.

[42] Hursthouse, R. (1991), "Virtue Theory and Abortion", *Philosophy & Public Affairs* 20(3):223-246.

normative force of duty or obligation.[43] This latter question has assumed great prominence, as some have raised the objection that a virtue ethics cannot account for the authority of moral claims, especially when they involve moral duties to others.[44]

Annas argues that virtue has now reestablished itself, not merely in philosophy departments or in applied ethics, but more widely in society. The preponderance of studies in empirical psychology, sociology, as well as in popular self-help literature showing an interest in virtue reveals a deeper and expanding commitment to take character more seriously as a moral and aesthetic ideal. Yet despite this resurgence in popularity, the word 'virtue' still seems somewhat antiquated. More difficult is the apparent uneasiness with which we try apply virtue terms to concrete situations. "Virtue," she said, "sounds like an ideal of character that you aim to reach…rather than a way of getting round the messy real world."[45]

One dominant theme in contemporary moral philosophy is to suggest that when we need action guidance, advice about how to act in a confounding situation, what we are in need of is a *theory*; a set of carefully crafted, internally consistent propositions that supervene on us and our behaviors, telling us how to act. We are readily familiar

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[43] For an essay on virtue ethics and deontic moral terms, see Lebar, M. (2009). Virtue Ethics and Deontic Constraints. *Ethics, 119*(4), 642-671.

[44] At times, this explained in terms of a hard distinction between egoistic and altruistic moral tendencies, with virtue ethics being unable to explain why we should act against our own interests (ie virtue ethics is 'foundationally egoistic' in Thomas Hurka's estimation). For a reply to this difficulty, see Annas, J. (2007). Virtue Ethics and the Charge of Egoism. *Morality and Self-Interest,* 205-222.

[45] Annas, J. (2014). Applying Virtue to Ethics. *Journal of Applied Philosophy, 32*(1), 1-14.

with this line of thought, even if we are not philosophers. Most of us have participated, and often *endured*, obligatory "ethics training" sessions, presentations on company "codes of conduct," or have briefly looked through the "Terms and Conditions" when signing up for a internet service. These are all instances where our actions are being constrained in some way by a set of fixed rules meant to guide us if we encounter difficulties in our work, and especially in our professional relationships. Though is not the only conception of a theory, it is one kind that reoccurs again and again and there is aspiration for theory to provide just this kind of clarity and assistance for our otherwise indeterminate lives.

Annas rejects this kind of approach to decision making. Moral maturity and moral action is not a matter of reading prescriptions off a carefully crafted life manual. Action, from a virtue ethics perspective, is about the *way* in which one deals with a situation; well or badly, honestly or dishonestly, courageously or cowardly – and crucially, understanding the reasons why such a reaction is warranted. Acting in light of a theory, a model, or a even under the direction of another person may be suitable for some, but those who are actively pursuing excellence in activity it is simply inappropriate. Virtuosity is not a matter of following directives from authority or from cultural convention; it is a matter of responding in a way that is appropriate to a given situation.

Some who favor a prescriptive theory might derive imperatives such as "Don't deceive," "Don't coerce," and "Don't harm." However, it does not take very long to understand that these are too broad and uninformative. The complexity of ordinary situations makes a difference to what constitutes "harm", "coercion", and "deception" in addition to the problem of how to determine when certain situations might warrant an

exception. Against this, virtue ethics proposes the *v-rules* which, according to those like Annas and Hursthouse, are more informative and compose *thick* ethical descriptions.[46]

V-rules, which take the form of "Be honest", or "be courageous." The difference lies, first, in the degree of indeterminacy: Acting "honestly" is not mysterious in content, and directs our attention to the features of a situation that need to be accounted for, whereas the prescription "Don't lie" requires further clarification. In short, rules are not always easy to apply in difficult circumstances and do not function without context sensitive judgments.The V-rules make use of the fact that the virtues are dynamic, developed, intelligent *habits* which are formed in practice. By the time we are called upon to act compassionately, honestly, or courageously, we already have some familiarity with others who have these virtues, and we have gone some distance in acquiring them ourselves. In doing so, we know that being courageous is a matter of enduring and standing up for something (or someone), in circumstances that warrant that response.

Understanding V-rules in the context of a developmental process implies that, when are called upon to act, we react in accordance with the virtues that we have acquired (or partially acquired); honestly, justly, courageously and so on. Those who are called on and must think about the v-rules, or wonder what virtues are relevant are still learning and still a process of habituation, whereas those who are virtuous (or closer to it) are able to respond sensitively and purposely to the demands. Thinking about action

[46] See "Learning Virtue Rules: The Issue Of Thick Concepts" in Annas, J., Narvaez, D., Snow, N. (2016). *Developing the Virtues: Integrating Perspectives*. New York: Oxford University Press.

and virtue this way allows us to escape the notion that acting ethically is a matter of following intuitions, mindlessly applying rules, or submitting unreflectively to authority.

An analogy which Annas develops at length, and is represented in ancient writings on virtue, is based on the notion that acting virtuously is like acting on a practical skill.[47] Activities like swimming, cooking, gardening, playing the piano, and building a bird house require various techniques and simple understandings that are all learned under the direction of someone who has already mastered them, to some degree. The learning process proceeds with those who must follow the advice of more experienced others, must refer to this advice whilst doing the activity, but eventually – if they progress – become competent enough to not only seamlessly complete the activity as directed, but ultimately modify the activity in a way that it is intelligible and unique to them. In this way, virtuous activity is less like following a coach's game plan, and more like mastering a technique that allows one to reliably respond and react appropriately.

Action guidance, therefore, is had by applying the lessons of virtue that one has been brought up with, and gradually modified, so as to react proactively and competently. Much like playing an instrument, there is a point in which one does not need to think about a scale, or chord, or a key, but knows where and how to play and perform – without second guessing or constant deliberation. Acting kindly, generously, or bravely is very similar, on Annas' view, as we come to know when and how to extend generosity, when to be kind as opposed to being stern, and when to be brave in standing

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[47] Annas, J. (1995). Virtue as a skill. *International Journal of Philosophical Studies, 3*(2), 227-243. doi:10.1080/09672559508570812

one's ground and we do all this by recognizing unique features of a situation that have occurred previously.

Earlier, I noted that, even though some will concede that virtues can be applied as easily as duties or principles of utility, they simply cannot account for the *force* of obligation; the notion that morality demands our compliance, irrespective of our contrary inclinations. Annas repudiates this charge as well. The idea that virtues cannot make demands on us misses the fact that virtues are, again, developmental and also *aspirational*. Generosity is not merely something that we are taught, but it is a disposition to feel drawn to situations in which we are meant to act generously and feel *guilty* when we fall short. Guilt is an appropriate and commonplace emotion when we fail to live up to our values, and among those values are the ideals and demands of virtuous living. The force of obligation is, therefore, not some alien force that virtue ethics cannot account for. It is contained in the motivational and conceptual structure of what it means to possess a virtue; of what it means to be a good human being.

As noted at the outset, thought many alternatives have emerged for how an ethic of virtue could incorporate or produce a formal theory of right action, the preference for this essay is to affirm none of the above. In technical terms, the position I offer is called *eliminativism;* a rejection of deductive accounts of reasoning.[48] From this perspective, it is both unnecessary and undesirable to attempt any theory of moral rules or procedure for action. This is so for two reasons: First, as we shall see in the next chapter, accounts of virtue naturally accompany conceptions of practical reason, which should be our guide in determining how we can both act towards amiable ends and maintain our

[48] See Van Zyl, L. (2019). *Virtue ethics : A contemporary introduction* (Routledge contemporary introductions to philosophy. New York, NY: Routledge, chp. 6.

virtue. Second, attempting to derive rules for conduct and action prior to our experiencing the difficulties, ambiguities, and complexities of ethical problems is a symptom of contemporary moral thinking.

Why Virtue and Biotechnology?

One might wonder why another methodological approach is needed to discuss genetic technology, and more specifically Crispr research, and why virtue ethics is the right candidate. To that, my answer is twofold: First, virtue ethics has long aspired to be a more nuanced and inclusive account of how ethical problems and ethical beings engage one another. Understanding the ways that technologies bear on human identities, agency, and the future of good human lives is more than just thinking about consequences and engaging with legal, commercial, or human rights. Second, as a field that seeks to change how we engage in ethical deliberation, putting the virtues to work in an emerging technological field with many uncertain variables will function as a test of its intuitive, conceptual, and substantive appeal. In short, of whether the virtues are useful in understanding these complex issues, this essay and its readers will be the judge. The attempt, it seems to me, is well worth the effort in and of itself.

Conclusion

In this chapter, I have attempted to sketch some bare feature of virtue ethics, its central commitment to character and how it relates to action. No doubt, this account can be completed in many different ways. It is not my aim to affirm a particular, systematic account, but only to stress the general approach as one which needs to be considered when discussing issues of genetics and technological innovation. In the proceeding

chapters, I will offer three virtues that I believe are essential to the discussions around emerging technology.

Chapter Three: Practical Reason and Particularity

In classical as well as contemporary ethics, practical reasoning assumes a prominent role.[49] In foundational texts such as Aristotle's *Nicomachean Ethics*, *phronesis* is especially important because all virtuous action must be guided by an emphasis on the practical aspects of everyday life.[50] Though not among the theological virtues, Aquinas described *prudentia* as essential for both infused and acquired virtue.[51] Much later in the *Critique of Practical Reason*, Kant reports that even theoretical reason ultimately corresponds to practical matters.[52] Ethical theorists of all stripes have acknowledged the need for the practical acquisition of skills and sensitivities that aid us in making competent moral judgments.

Below I will describe two different conceptions of practical reason, both of which stress the importance of concrete, ordinary experience. First, from the American philosopher and education reformer John Dewey, whose experimentalism and

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[49] Millgram, E. (2001). *Varieties of practical reasoning*. Cambridge, Mass.: MIT Press. Raz, J. (1978). *Practical reasoning*. Oxford ; New York: Oxford University Press.

[50] For a detailed exposition, Sherman, N. (1989). *The fabric of character : Aristotle's theory of virtue*. Oxford [England] : New York: Clarendon Press, Oxford University Press.

[51] Thomas, & Dominicans. English Province. (1992). *Summa Theologiae*. Second Part of the Second Part, Question 47.

[52] Kant, I., Reath, A., & Gregor, M. (2015). *Critique of practical reason* (Revised edition / edited by Andrews Reath, Mary Gregor.. ed., Cambridge texts in the history of philosophy. Cambridge: Cambridge University Press.

pragmatism have been greatly influential in contemporary ethics. Second, from Martha Nussbaum's sympathetic reading of Aristotle, which allows for sensitivity to context and a powerful alternative to Universalist or principlist decision procedures. Throughout I will stress the importance of moral *perception*; a unique capacity to notice and respond to the salient features of our lives and relationships.

Dewey and the Role Of Ethics

In John Dewey's later ethical writings, he notes the common tendency to reduce moral reasoning down to one primary factor.[53] Dewey claims that this is a fraught tendency, as there is an "element of uncertainty and of conflict in any situation which can properly be called *moral*."[54] Dewey's critical suggestion, against absolutists and moral deductivists, is that "moral progress and the sharpening of character depend on the ability to make delicate distinctions, to perceive aspects of good and of evil not previously noticed, to take into account the fact that doubt and the need for choice impinge at every turn."[55] Dewey defends this idea briefly by considering how three factors are involved in almost all morally salient circumstances: the ends or consequences likely to occur from an action, a just or right approach, and the direction of virtuous conduct. All of these factors are usually present, and when confronted with this fact we cannot but recognize that the "essence of the moral situation is an internal

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[53] Dewey, John, Larry A. Hickman, and Thomas M. Alexander. *The Essential Dewey*. Bloomington: Indiana University Press, 1998. Specifically, Dewey has in mind Mill's happiness principle and Aristotle's discussion of *eudaimonia*.

[54] My emphasis. See "Three Independent Factors in Morals" in Dewey, J. (1946). *Problems of men*. New York: Philosophical Library.
[55] "Three Independent Factors in Morals", 2.

and intrinsic conflict" and "the necessity for judgement and for choice comes from the fact that one has to manage forces with no common denominator."[56]

Like other moralists such as Immanuel Kant, John Dewey contended that the essence of a moral theory is implicit in ordinary thinking. He wrote:

> No fundamental difference exists between systematic moral theory and the reflection an individual engages in when he attempts to find general principles which shall direct and justify his conduct. Moral theory begins, in germ, when any one asks "why should I act thus and not otherwise? Why is this right and that wrong? What right has any one to frown upon this way of acting and impose that other way?[57]

Unlike Kant, however, Dewey rejected the notion that moral thinking begins by abstracting from experience. For Dewey, theory begins when accepted beliefs are challenged by the emergence of contrary moral intuitions brought on by a multiplicity of unexpected circumstances. Only in the absence of unchecked values, and in the face of opposition, can reflective moral thinking come into existence. This is not, Dewey acknowledges, a *conscious*, explicit, or even willing, process. Theory is a "systematic raising of the question which occupies the mind of any one who in the face of moral conflict and doubt seeks a way out through reflection."[58] In thinking morally, we encounter two kinds of problems: the first, when we encounter a situation in which we are in danger of doing a wrong, but engage in a process of justifying the action so as to reduce guilt, and the second, when we encounter a dilemma in which values are generally in tension, and we weigh up the potential ways of satisfying the situation while

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[56] "Three Independent Factors in Morals", 3.

[57] Dewey, John. *Theory of the Moral Life*. 1st Irvington ed. New York: Irvington Publishers, 1980, 5.

[58] *Theory of the Moral Life,* 5.

acknowledging that some value may be sacrificed. For Dewey, the latter is the essence of ethical theorizing.

Theory, according to Dewey, is useful for three purposes: first, it allows an individual to generalize; placing moral problems into a larger, more perceptible context, second, it provides the methods that have been employed by others who have faced similar challenges and offer them as possible strategies, and third, assist in organizing one's personal thinking, rendering it moral systematic and exposing various alternatives previously undetected. Critically, however, it does not offer a "moral algorithm" or a set of unquestionable imperatives that can render the correct result. Personal decision and practical judgement cannot be replaced by theory, but they can be aided by theoretical resources.

A critical insight from Dewey is that the values and concepts we inherit from previous generations often fail to satisfy the conditions for flourishing and do not aid us in solving contemporary problems. Every generation has various sociological, economic, and moral problems unique to the time and place they occupy, and these cannot always be solved by adhering to time honored practices. The persistent intergenerational challenge,therefore, is the tension that exists between what he calls "customary morality" and "reflective morality."[59]

Dewey noted, though writing in the 1930s, that rapid change in cultural, industrial, and socio economic conditions preempted a need for moral theory, and also provided the sources for its content. Even the dogmatist, says Dewey, "whether made so by tradition or through some special insight which he claims as his own, will pick out

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59 *Theory of the Moral Life,* 7.

from the many conflicting codes that one which agrees the most closely with his own education and taste" however, a useful and reflective theory sees codes as "data; it will consider the conditions under which they arose; the methods which consciously or unconsciously determined their formation and acceptance; it will inquire into their applicability in present conditions."[60] In conjunction, Dewey noted the way that we take lessons from legal and social institutions, which instantiate values of various kinds in regulating conduct, present vast quantities of data for reflection. Lastly, theory is enlivened by the sciences, which Dewey, at that time, felt were greatly untapped.

Dewey, as noted earlier, considered the reduction of reflective morality to any of the major ethical theories to be unhelpful and fragmentary. We cannot have an adequate grasp on the experimental process of morality if we restrict our inquiry to one dimension, be it consequential, deontological, or aretaic. The complexity of moral situations, moral problems, and moral character require a more holistic approach. Unlike modern normative theories, which attempt to reduce moral theorizing down to a dominant theme, Dewey attempted a synthesis by describing the inadequacies and the significance of moral concepts.

For Dewey, teleology, or the study of ends in action is essential for ethics. "There can be no such thing as reflective morality," Dewey claimed, " except where men seriously ask by what purposes they should direct their conduct and why they should do so."[61] Indeed, Dewey thought that developing "inclusive and enduring aims" was a

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[60] *Theory of the Moral Life,* 23.

[61] Dewey, John. *Theory of the Moral Life*. 1st Irvington ed. New York: Irvington Publishers, 1980, 29.

crucial step in thinking about moral conduct. For the difference between non-human animals and human beings is the capacity to predict and reflect on the outcomes and consequences of habits and impulses. Moreover, moral *maturity* occurs in the recognition that some objects of impulse, though undoubtedly desirable, are simply inferior to others when considered thoughtfully. The consequences of pursuing lesser pleasure present themselves in careful examination. Practical experience, over time, allows us to achieve continuity between desire and thoughtfulness, though not without effort and consistent practice.[62]

Dewey understands pleasure and pain are significant pieces of moral data, as Benetham and Mill prescribed, and one of the most obvious ends that drives human action.[63] However, the task of non reflective pleasure seeking or simple moderation in the pursuit of maximization of lifelong pleasure is inadequate.[64] Mill's utilitarianism contains great insights; it allows for the division of higher and lower pleasures. The great challenge is to "cultivate interest in those goods which we do approve in our calm moments of reflection."[65] The habits that permit us to do this successfully allow for the proper enjoyment of these ends, and allows us to deepen our appreciation for them over time. Moreover, the positive project of shaping our desires through introspection accords with observations made by Plato and Aristotle; that moral education consists in

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[62] *Theory of the Moral Life*, 32-36.

[63] See Mill, John Stuart, and Ben Eggleston. *Utilitarianism : With Related Remarks from Mill's Other Writings*. Indianapolis: Hackett Publishing Company, 2017.

[64] Dewey describes these under the heading of 'hedonism' and 'Epicureanism'.

[65] *Theory of the Moral Life*, 57.

developing a character which finds pleasure in the right objects and pain in the wrong ends.[66]

The achievement of proper ends is judged by its production of "good policy." As Dewey put it, "as far as the maxim emphasizes means and conditions that are necessary to achievement, thus taking morals out of the region of sentimental vaporing and fantasies, miscalled idealism, the principle is sound."[67] Valuing achievement and the pursuit of goods, without overindulgence of momentary lapses into the desire of trivial things is the ideal. Dewey claimed, although we cannot say that certain ends are always ideal and intrinsically good:

> The distinction is one between goods which, when they present themselves to the imagination, are approved by reflection after wide examination of their relations, and the good which are such only because their wider connections are not looked into…In a general way, of course, we can safely point out that certain goods are ideal in character: those of art, science, culture, interchange of knowledge and ideas, but this is because past experience has shower that they are the *kind* of values which are likely to be approved upon searching reflection.[68]

Dewey contended that duties, or a sense of duty, arises first and foremost in the context of a relationship. Though duty is often connected with notions of conforming to authority, this is insufficient because it is slavish and grounded fear and avoidance of punishment. The natural sense of duty comes about when we enter into a relation that prompts us to be responsive to another who is in our care or under our direction. The authority of claims rests in the "relation that binds people together."[69]

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66 *Theory of the Moral Life*, 58-59.

67 *Theory of the Moral Life*, 58.

68 *Theory of the Moral Life*, 61-62.

69 *Theory of the Moral Life*, 70.

Unlike Kant, who extols duty as a means of respecting the moral law, an abstract formulation of pure reason conceived a priori, Dewey conceives duty as a product of our social, mutually dependent nature. Non-conformity to duties is not a contradiction in the will, as Kant put it, but rather a casting off of one's acquired responsibility to another person; an affirming of some alternative good which has yet to be justified. Non-conformity, though, has an interesting place alongside the concept of duty. Non-conformity, says Dewey, is always met with criticism. However, if our morality is to be reflective, we must be willing to display tolerance in our dealings with nonconformists, as their activities may be yet under step towards challenging social and moral norms that may, on experiment, be inadequate in some realm of human experience.

Aside from the relational account of duty, Dewey pursued a moral formal notion of duty as "a sense of being bound by that which is right because of its rightfulness."[70] The increase in moral duty corresponds with an increase in our sense of general obligation which extends beyond particular situations. However, rather than affirm a universal duty as something over against the particularities of life, Dewey affirms that a "general sense of duty is to make us sensitive to the relations and claims involved in particular situations."[71] For Dewey, a general sense of obligation guards against social conditions which are hostile to the needs and vulnerabilities of others and promotes a sense of solidarity and fellow citizenship in the face of strong, contrary inclination.

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[70] *Theory of the Moral Life*, 85.

[71] *Theory of the Moral Life*, 87.

As Dewey often notes, our conception of character and what counts as a virtue is often constrained by 'conventional morality'; the customs and perceptions of a particular set of cultural norms. The task of reflective morality, then, is to seek out what habits or virtues are approvable under close scrutiny without simply conceding the traditional understanding. Moreover, Dewey pushes aside any fixed catalogue of virtues, with precisely defined meanings. Dewey writes:

> In reflective morality, a list of virtues has a much more tentative status. Chastity, kindness, honesty, patriotism, modesty, toleration, bravery, etc., cannot be given a fixed meaning, because each expresses an interest in objects and institutions which are changing. In form, as interests, they may be permanent, since no community could endure in which there were not, say, fair dealing, public spirit, regard for life, faithfulness to others. But no two communities conceive the objects to which these qualities attach in quite identical ways. They can be defined, therefore, only on the basis of qualities of characteristic interest, not on the basis of permanent and uniform objects in which interest is taken.[72]

For Dewey, virtue has three general properties. First, it denotes sincerity and integrity; an honest, stable disposition. Second, it involves interest that is persistent and continuous. Third, it contains an element of impartiality.[73] The three conditions, together, represent a common conception of virtue that is present in both Aristotle's notion of *arete*, excellence, and in modern trait psychology. Dewey thinks of virtues as robust, though not inflexible, aspects of a person to think, feel, and act in ways that are conducive to the promotion of good ends and with respect to one's responsibilities.

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[72] *Theory of the Moral Life*, 112-113.

[73] Dewey is careful here to distinguish between impartiality and universality. Impartiality comes about as we learn to regard others and their views as worthy of consideration, whether we have any prior affection or relation to them at all. This is a sign of true virtue. However, universality, or the notion that we are meant to act and feel the same towards every person we encounter is unrealistic, Dewey thinks.

Dewey On Particularity and Practical Reasoning

In *Theory of the Moral Life*, Dewey offers a framework incorporating both philosophical psychology and ethics. The account is methodologically harmonious with Dewey's remarks above, as he rejects an attempt to collapse the moral project into strict deontological or teleological terms. In so doing, Dewey expresses his own understanding of morality which he claims consists in "the capacity to judge the respective claims of desire and of duty from the moment they affirm themselves in concrete experience, with an eye to discovering a practical middle footing between one and the other - a middle footing which leans as much to one side as to the other without following any rule which may be posed in advance."[74] This places moral judgement, an experientially refined capacity for value perception, at the center of moral lives, as opposed to merely desire or reason. Crucially, Dewey believed that whatever moral judgement is, it is but a species of value judgment. Value judgement is a capacity to recognize acts or dispositions that have worth, positively or negatively. For Dewey, value judgements involve either an act of esteeming or estimation, with estimation being the most important for mature moral evaluation.[75]

The proper development of value judgements is a function of instruction and habituation. The initial intuitive structure of judgement, which may get certain things right from time to time, is limited and must be transcended. Similarly, even refined

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[74] "Three Independent Factors in Morals", 2.

[75] Dewey claims that "to esteem is to prize, hold dear, admire, approve; to estimate is to measure in intellectual fashion." The first is spontaneous and intuitive, while the second is refined and reflexive.

judgements must not become so entrenched as to impede the perception of moral features here and now. "Extreme intuitionism and extreme conservatism often go together," said Dewey, noting that when we are confronted with circumstances that challenge our current web of moral beliefs, habits, and principles, we often reject them so as to avoid discomfort.[76] For this reason, Dewey cautions against reliance on ordinary intuitive judgements, in addition to the fact that intuition often fails under new circumstances, and that intuition can lead to dogmatism.

Despite the pitfalls of intuition, Dewey acknowledges that the emphasis on direct responsiveness to the qualities of situations and acts represents a crucial dimension of moral judgement. Effective judgement cannot arise without attention to detail. It is this moral sensibility that prompts Dewey's approval of theories grounded in sentiment, even if they are incomplete. Dewey departs from the sentimentalist when he affirms the Greek emphasis on *sophrosyne* (temperance) and *kalokagathos* (harmony).[77] In order to temper our emotions and intuitions we need to pursue a sense of unity in our action, thought, and emotion such that we can judge well.[78]

A critical point for Dewey is the need to reevaluate one's intuitions. Values have to be "subject to correction, to confirmation and revision, by personal observation of

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[76] *Theory of the Moral Life*, 126.

[77] *Theory of the Moral Life*, 128-131.

[78] Dewey expresses approval for Aristotle's contention that only the good man is a good judge of what is truly good. However, Dewey dissents from this because he believes that novel situations can produce as much disharmony and confusion for the *phronimos* because of the limited perceptual and creative capacities he or she possesses. Even the practically wise person will need to improvise and learn from new experiences.

consequences and cross questioning of their quality and scope."[79] This process is what Dewey calls deliberation. Deliberation concerns the weighing of values with aim of "discovering" the better and rejecting the worse. Interestingly, Dewey refers to deliberation as "an imaginative rehearsal of various courses of conduct."[80] When we confront a problem, we imagine a possible range of outcomes and study the consequences in light of our values. Dewey maintains that deliberation is a dramatic and dynamic process in which imagined alternatives are "forced into clear recognition." The process of deliberation over time, across multiple cases brings us to the realization that values are cumulative. Across a range of problems, certain lines of thought become reinforced, certain arguments more plausible, and certain values more concretized.

The refined aspects of experience that we form in deliberation give way to *principles*, which we bring with us into future deliberations. Dewey notes the usefulness of principles, but explains the disintegration of their intellectual content over time. In Dewey's view, principles are passed on over time and gradually become fixed mediums for conduct. In view of this, Dewey distinguishes principles from rules in two ways: First, principles are connected with complex experiences and contain within them judgements about the kinds of values and consequences that are instantiated when those principles are applied, whereas rules are fixed and ready-made prescriptions. Second, principles are primarily *intellectual* schemes for approaching moral situations, whereas rules are practical. Despite the distinction, when we find ourselves reduced to the mere rule following, we implicitly adopt a confounded, elaborate formalism. The

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79 *Theory of the Moral Life*, 132.

80 *Theory of the Moral Life*, 135.

danger, in Dewey's mind, is that the application of rules is blind without the particularity of judgement.

A helpful reminder from Dewey is that morality must be worldly enough to acknowledge the need to make practical decisions. It cannot indulge elaborate idealization or languish too long in abstraction.[81] As Dewey remarks, "universal agreement upon the abstract principle, even if it existed, would be of value only as a preliminary to cooperative undertaking of investigation and thoughtful planning; as a preparation, in other words, for systematic and consistent reflection."[82]

In his work on Dewey, Steven Fesmire notes the aesthetic dimensions of practical reasoning.[83] As noted above, moral deliberation occurs only when some aspect of our experience is unraveled or disrupted by trying circumstances. Reasoning takes on the role of a "dramatic rehearsal" as we attempt to find "a path that will integrate competing desires and restore equilibrium to our experience."[84] Deliberation not only restores a sense of emotional closure, when a problem is solved, it also establishes a sense of continuity to our experience. Dewey recognizes the social basis for human actions and also the ways in which our feelings, values, and ideals are bound up in a set of stories about our identity. Dramatic rehearsals in the deliberative process must be responsive

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[81] For more on the distinction, see O'neill, O. "Abstraction, Idealization and Ideology in Ethics." *Royal Institute of Philosophy Lecture Series* 22 (1987): 55–69.

[82] *Theory of the Moral Life,* 22.

[83] Fesmire, S. (2003). *John Dewey and Moral Imagination Pragmatism in Ethics*. Bloomington, IN: Indiana University Press.

[84] Fesmire, S. (1995). Dramatic Rehearsal and the Moral Artist: A Deweyan Theory Of Moral Understanding. *Transactions of the Charles S. Peirce Society*. Vol. 31. No. 3. 569.

to this aspect of human life, and must "weave the interests and purposes of ourselves and others into an integrated and enduring tapestry."[85] Once we understand how our lives are bound together with others, our dramatic portrayal of future consequences must include the impact of our actions on them.

Fesmire notes that Dewey's theory of habit and belief formation rejects a modern tendency to boil down beliefs to propositional attitudes. Rather, beliefs and habits intertwine to form coherent, dynamic ways of living and experiencing – comparable to MacIntyre's "narrative history." Must like current practices and beliefs, projections in the future also take the role of a narrative. These dramatic narratives are not simplistic utility calculations, but are thick descriptions of the way a course of action will further or stifle our continuing life stories. Moreover, because we are not merely bystanders or idle performers in a ready made play, we are co-creators in the construction of our open ended, often complicated, life.

These tasks of dramatic rehearsal and construction are possible because of our evolving habits and emerging imagination. For Dewey, habits are not inflexible tendencies, but are dispositions of character that are developed in response to practical challenges. As we encounter ever more complex social and environmental trials, our habits are tested and forced to evolve as we learn to reason about how to react; we dramatically rehearse and gradually adapt. This process reveals how human action is fundamentally imaginative. Reasoning is not a matter of fixed ends or instantiating one or more intrinsic goods; it is a matter securing or furthering a course of action that maintains our socially situated, relationally constituted history. Consequences are not

[85] Ibid, 571.

static events; they are inclusive ends that bring together laudable undertakings, satisfy many interests, and seek consensus among competing individuals in search of the "democratic ideal." Being successful in deliberation requires, therefore, a commitment to developing one's imagination.

For the purposes of discussing genetic technology, Dewey's imminently practical and experimental account of reasoning is well suited. The metaphor of "rehearsal" in Dewey's account is one that is one that can help us when understanding how to act in light of uncertain technological innovation. Genetic technologies present us with a future that is in many ways unnerving, destabilizing, and yet also, imaginative, revolutionary, and potentially beneficial. Many works of fiction, literary and theatrical, have been designed to give us a vision of what such a future could look like, with conflicting results.[86] The dystopian visions of fractured, hierarchical societies structured by genetic differences appear along side visions of healthier, supremely intelligent, less vulnerable populations. These are all "dramatic rehearsals"; futures that are open to us through emerging technology. How we navigate these uncharted, but projected futures is a matter of profound importance. Only by allowing ourselves to reason through the options, carefully and experimentally, in light of the values, ends, and goals we have can we hope to arrive at a satisfactory set of conclusions.

Nussbaum and Aristotle

[86] Immediate and obvious examples include Aldous Huxley's novel *Brave New World* and Andrew Niccol's film, *Gattaca*.

In Martha Nussbaum's early work on Aristotle, she draws together a sympathetic interpretation of practical learning and practical reason.[87] In this attempt, she works to describe and integrate three aspects of practical reason: 1) *plurality and incommensurability of value,* 2) *particularity,* and 3) *emotion and imagination*. In doing so, she positions herself in opposition to trends in both contemporary and ancient ethical theory: value monism, universalizability, and impartialism. We will explore these contrasts below through her exposition on Aristotle.

Value monism is the view that all things of value correspond to one stable and enduring characteristic or standard. All ethical choices involve measuring how a given situation, variable, or action bears resemblance to a singular standard which determines its significance. Further, the worth of any variable or action is to be discerned by how much it promotes, or adheres to, this predetermined and stable characteristic. This is the kind of value system that Aristotle rejects, according to Nussbaum. For Aristotle, the discernment of moral value is not a matter of matching up a state of affairs to some supreme value (what Nussbaum calls the "science of measurement"). It is, rather, a "quality-based selection among goods that are plural and heterogeneous, each being chosen for its own distinctive value."[88]

The *singleness* and *metricity* implied by monism must be rejected because, among other things, it implies the commensurability of values that are perceptively different in quality and kind. The good of being a musical virtuoso and being a good friend are not a part of the same scheme of value; they are individual excellences that

[87] See "The Discernment Of Perception" in Nussbaum, M. (1990). *Love's knowledge : Essays on philosophy and literature*. New York: Oxford University Press.

[88] *Love's Knowledge, 57.*

are assessed on their own terms and pursued for different sorts of reasons. Indeed, it is the plurality of value in our assessments of actions and choices that make a good life possible, on the Aristotelian view. It is the fact that friendship is a *distinctive* good that we cannot simply replace it or compensate for it with an overindulgence of other goods, however pleasing they might appear. And there are several, perhaps inumerable, goods which are particular and incommensurable; they are all individually desirable and collectively form the whole that is a good human life. Any attempt to boil down the value of particular good to some common denominator, and to assign them some relative value *degrades* their importance and understates the degree to which we seek them for their own sake.

This emphasis on the intrinsic goodness of different, competing goods presents both a compelling vision of the good life, but also a series of problems. If we cannot codify our ethical values, we cannot rule out the possibility of those values coming into conflict. How am I to weigh the value of parenthood (responsibilities incumbent on me as an expecting parent) with the value of pursuing aesthetic or occupational goals (such as being a musician, author, engineer, or business owner)? It is not clear, at the outset, how to avoid these kinds of conflicts. As Nussbaum notes, the Aristotelian view "fosters attention to the ways in which the world can impede our efforts to act well; it indicates that caring about many things will open us to the risk of these terrible situations."[89] Aristotle embraces the notion of 'moral luck,' both good and bad, and accepts this as both a desirable feature of the deliberative process, but also a possible, and often inescapable, feature of the good life. The alternative is a form of deliberation that denies

[89] *Love's Knowledge, 64.*

or gives less attention to the moral complexity of a given situation; it denies that one ethical value must be sacrificed in order to achieve another.

The second set of features of practical reasoning are *particularity* and *perception*. Again, the longstanding desire to formulate precise, overriding, and universally applicable principles leads to a less rich and less inclusive understanding of practical action. Against those forms of rational choice that prefer principle over perception, Aristotle notes the priority of particulars. That is, our judgments have to be trained and driven by the concrete factors that characterize ordinary situations. Though general rules or universal principles may have some role, they are not necessarily prior to the particular observations and judgments formed in everyday interactions. Indeed, attempting to apply rigid, antecedently formed general principles fail because they lack the guidance and detail required to respond to the problem at hand.

This is so for three reasons, First, particular situations lack the fixity of principles; they are not static, plainly defined problems waiting to be solved. The virtues that agents need to decide and act must be flexible and responsive to the ever changing social environment in which they live. We cannot expect a principle to account for all the ways in which our world can defy and frustrate our carefully crafted procedures, rituals, and social expectations. Second, practical matters are indeterminate. What is a virtuous response in one context, before a given audience, will be wholly inadequate in others. Reasoning well takes note of the differing contextual features and adjusts accordingly. Third, certain particulars have the character of being “unrepeatable”; they have less in common with any other particular. The application of a general principle will fail when the situation requires a response to a highly significant and individually unique set of particulars.

The priority of particulars represents a departure from algorithmic moral thinking. There is no life manual and no formal principle for how to resolve human difficulties. The best we can do is follow the character and life stories of those who feel and reason their way through characteristically difficult situations. As Nussbaum says, "good deliberation is like theatrical or musical improvisation, where what counts is flexibility, responsiveness, and openness to the external."[90] However, much like musicians, navigators, and military generals, the project of reasoning well is always a process of acting *within a context* of thinkers, fellow reasoners, and within a web of social histories. Openness to experience and new challenges does not rule out that shared values, virtues, and customs cannot or should not inform how we reason about challenges. In short, the narratives that inform our deliberative processes have as much to do with how we act as our willingness to participate in new conundrums.

The third component of practical reasoning grants a place for *emotion* and *imaginative* thinking. Some contemporary thinking about moral reason and rational choice reject the place of emotions and the usage of narrative. The passions and inclinations are suspect and must be channeled and controlled by the fixed capacities of reason and rationality. In this context, the greater "enemies" are Plato and Kant. Inclinations are distractions at best, and representative of selfish desires at worst. Imaginative or narrative thinking is no better, as evidenced by Plato's suspicion of the poets and artisans. Aristotle, by contrast, saw emotions and *poesis* important aspects of reasoning about action. If the salient features everyday life and the value of particulars are crucial for *phronesis*, as Nussbaum and Aristotle stress, then it is worth considering

[90] *Love's Knowledge, 74.*

how our ability to imagine and emotively perceive our circumstances can affect our reasoning.

Nussbaum draws attention to Aristotle's usage of *phantasia*, the closest word that translates to "imagination." The word denotes an inclusive capability to pick up on the content and salient features of a given particular. Further, *phantasia* includes connections to our memory, enabling a process that connects the concrete aspects of a current situation with those not present. Though a modern conception of imagination would include the activities involved in creating fantasies, for Aristotle *phantasia* is less about abstracting away or creating a new reality and more a matter of connecting the aspects of particulars. Nussbaum writes, "instead of ascending from particular to general, deliberative imagination links particulars without dispensing with their particularity."[91]

In his discussions of the emotions, Aristotle marks a shift from his teacher, Plato. Virtuous people, on an Aristotelian view, are those who both act and *feel* appropriately given the circumstances. It is not enough to conform one's actions to an ideal and to have the correct motivations. Virtuosity consists in a harmony between how we act, the reasons for our acting, and the affective response we form in light of our commitments and actions. For Aristotle, emotions are part of a responsive and selective process. Emotions, when properly trained, form a composite of beliefs and feelings that direct our attention to individual goods and away from distractions and evils. Given this, those who act in light of genuine practical insight "cultivate emotional openness and responsiveness in approaching a new situation."[92] Emotions are part of recognizing the

[91] *Love's Knowledge*, 78.
[92] *Love's Knowledge*, 79.

minor premise of the practical syllogism; the basic logical structure of human action. Apprehending the facts of a given situation, but remaining emotively mute or unimaginative, is a failure to properly understand and respond. This entails that rational calculation alone is insufficient in response to practical difficulties. As Nussbaum recounts, "the Aristotelian position does not simply inform us that theorizing needs to be completed with intuitive and emotional responses; it warns us of the ways in which theorizing can impede vision."[93] What follows from these observations is that when we look for those individuals who are to make decisions that have tremendous public and practical value, they should be persons with a great degree of sensitivity and emotional depth.

Looking at these three dimensions in a fresh light, it should be noted that they overlap in various ways and center on a number of common themes. The broadly Aristotelian picture that Nussbaum endorses functions as a theory of practical reasoning while simultaneously objecting to the quasi-scientific, monism picture discussed previously. The conception above directs our attention away from the idea that all instances or objects of value are somehow reducible to the value of one supreme object or standard; value is not communsurable or reducible. Reasoning is not a matter of grasping universal principles and mechanically applying them to particular problems. Lastly, reasoning about action involves both acting towards a given end and feeling the correct emotions that correspond to that tend, while imaginatively looking towards the end as something not yet experienced, but potentially valuable. A person capable of

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93 *Love's Knowledge*, 81.

acting and thinking responsibly in this way will be able to account for a wide variety of detail in any given problem, without reducing it to a generic set of political attitudes, a set of rights, or an absolute precept. They will be emotively engaged and imaginatively capable.

Bioethics and Practical Reasoning

More than twenty years ago, David Thomasma remarked that "the postmodernist movement creates a sense of crisis in bioethics…because of its questioning of any foundation for ethics" and "for neo-Aristotelianism, *phronesis* represents a possible way out of the problem."[94] In that context, the crisis was a matter of providing justifications for clinical judgments and for bioethical policies, especially where the ethical claims were grounded exclusively in moral rules. One proposed solution was to shift attention away from principlism, and find resources in the tradition of casuistry, where case by case judgments take priority over generalizable rules.[95] How, though, should we understand the role of *phronesis* in emerging genetic technologies?

As already discussed, with Dewey and Nussbaum's Aristotle, practical reasoning involves imaginative, context-sensitive, and perceptive faculties. In lieu of genetic therapy, its potential and its unpredictable risk, it is necessary to consider how these faculties might bear on the usage of Crispr. One issue that can, I think, be placed to the side is the stubborn insistence that we must choose sides in a politically laden,

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[94] Kuczewski, M., & Polansky, R. (2000). *Bioethics : Ancient themes in contemporary issues* (Basic bioethics. Cambridge, Mass.: MIT Press, 68.

[95] See Arras, John D. "Principles and Particularity: The Roles of Cases in Bioethics." *Ethics and Medical Decision-Making*, May 1994, 99–130.

dichotomized debate between bioconservatism and bioliberalism. We cannot hope to address the complexity of our future decisions if we strive to emulate the all or nothing approaches that reappear again and again in political discourse. The challenges that face us are more nuanced, and the consequences more dire. We cannot shrink from them by drawing indefensible lines in the sand, nor can be rationally hope that innovation will cease merely because of ethical concern. Too often, the world does not operate in accordance with ethical advice. The question is not, therefore, what can or should we allow, but rather, how do we leverage our future innovation to preserve the human community and to further the goals of human flourishing.

Shannon Vallor draws our attention to the need for *technomoral* wisdom.[96] Like Nussbaum, she recognizes that practical wisdom is more than a cognitive attitude or intellectual conclusion; it "operates within the moral realm, uniting cognitive, perceptual, affective, and motor capacities in refined and fluid expressions of moral excellence."[97] Attentiveness is a crucial aspect of practical reason, as we become attuned to those features of our emerging situation that would otherwise go unseen. In the case of Crispr technology that will extent to the design and modification of human embryos, we must grapple with how such usages will infringe, adjust, and complicate our family structures, our parenting practices, and feelings and identities of our "designer" children.

Two problems demand the attentiveness of sound, scientifically informed practical reasoners: Crispr 'off target' effects and the unpredictable outcomes of

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[96] Vallor, S. (2016). *Technology and the virtues : A philosophical guide to a future worth wanting*. New York, NY: Oxford University Press, chps. 3, 5, and 6.

[97] *Technology and the virtues*, 99.

germline editing. What has been intriguing about Crispr is that it can be used to target specific genes, precisely and efficiently. However, it has also been observed that using Crispr can result in alterations or deletions to genes outside of the 'target site'. Though the risks of off target gene mutations were known previously, recent studies indicate that the risk is much greater than originally supposed and that standard methods of assessment can miss gene alterations by Crispr.[98] Methods to make Crispr safer have been modestly successful, but the range studies are thus far inconclusive about the overall safety concerns.[99] These unintended and unpredictable deletions to the genome, *which can result in inheritable, cross generational traits* remain an extremely vexing problem for the prospects of Crispr gene therapy. It raises the question again and again about the viability of genome editing.

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[98] See Kosicki, M., Tomberg, K. & Bradley, A. Repair of double-strand breaks induced by CRISPR–Cas9 leads to large deletions and complex rearrangements. *Nat Biotechnol* 36, 765–771 (2018).

M. Zuccaro, J. Xu, C. Mitchell, D. Marin, R. Zimmerman, B. Rana, E. Weinstein, R. T. King, M. Smith, S. H. Tsang, R. Goland, M. Jasin, R. Lobo, N. Treff, D. Egli "Reading frame restoration at the EYS locus, and allele-specific chromosome removal after Cas9 cleavage in human embryos." bioRxiv 2020.06.17.149237

Also, D. Liang, N. M. Gutierrez, T. Chen, Y. Lee, S. Park, H. Ma, A. Koski, R. Ahmed, H. Darby, Y. Li, C. V. Dyken, A. Mikhalchenko, T. Gonmanee, T. Hayama, H. Zhao, K. Wu, J. Zhang, Z. Hou, J. Park, C. Kim, Jianhui Gong, Yilin Yuan, Ying Gu, Y. Shen, S. B. Olson, H. Yang, D. Battaglia, T. O'Leary, S. A. Krieg, D. M. Lee, D. H. Wu, P. B. Duell, S. Kaul, J. Kim, S. B. Heitner, E. Kang, Z. Chen, P. Amato, S. Mitalipov "Frequent gene conversion in human embryos induced by double strand breaks." bioRxiv 2020.06.19.162214

[99] Ledford, H. (2016, January 16). Enzyme tweak boosts precision of CRISPR genome edits. Retrieved July 24, 2020, from https://www.nature.com/news/enzyme-tweak-boosts-precision-of-crispr-genome-edits-1.19114

The scientific and technological problems represented above are matters of acute biological knowledge, which is only had by a relative few. However, we cannot shrink from these discussions by simply passing the buck to genetic researchers. The prospects of Crispr technology may yet become a part of our futures, medically, socially, and commercially. The ethical valences and consequences must be appreciated, anticipated, and explicitly discussed by more than just specialists. The ethicist, sociologist, religious scholar, and historian must have a role in the discussion. Practical choice and practical judgment is best served when all affected parties are able to discuss and bring to bear their own concerns and expertise. We must think imaginatively and holistically about what this technology holds for us and whether or not it is an open door to a better life, another fanciful distraction, or a genuinely harmful future. Identifying the problems with Crispr now and searching inclusively for engaged, competent practical reasoners must be an imperative.

Chapter Four: Care, Dependence, and Lives with Disability

The way we develop and engage with technology stems from our appraisal of human needs, preferences, and insecurities. The first pieces of technology in human history were designed to make basic activities easier, to make life more tolerable, and to allow for a more harmonious and sustainable way of life. Technology today has largely become a medium for play, amusement, and convenience, rather than a tool for survival. More than ever, technology not only responds to, but also *shapes* the desires, needs, and development of human beings. This is no less true of genetics and gene editing technology. To be an active participant in the development and implementation thereof,

we must investigate how such technologies affect, affirm, or deny the realities of the human condition.

If human beings are independent, self-sustaining, rational actors who stand in equal relation to one another in terms of mutual understanding, then technologies that increase or optimize this relation are of little concern. However, does this picture of the human person, as rational, autonomous, and self-sustaining, holistically characterize what it means to live a human life? Political and philosophical doctrines, ancient and contemporary, have tended to regard this as the standard picture of human life, or the goal which human life is directed towards. Western ethical theories place rationality and freedom as the finest of things, from Plato to John Rawls. Yet, this overemphasis has been debated, exposed, and has gradually been dismembered by the repeated criticisms of communitarians, Hegelians, Neo-Aristotelians, and feminists who continually remind us that relationship, community, attachment and emotion, and character should hold pride of place in ethical theorizing, and that we must gradually put an end to the biased, abusive systems of power that affect our most vulnerable populations.

I will continue from these perspectives, especially those from feminists and virtue ethicists. What we should garner from these next sections is how to regard ourselves as human beings who are, inevitably and from time to time, dependent and in need of *care*. For this, I turn to the work of Alasdair MacIntyre, Eva Feder Kittay, and Rosemarie Garland-Thomson.

MacIntyre's *Dependent Rational Animals* was a major attempt to reintroduce disability, dependence, and animality back into Anglo-American moral philosophy; a

return to moral *anthropology* from a Thomistic Aristotelian perspective.[100] Like many feminist critiques that attacked the independence, impartialism, and abstractness of contemporary moral thinking, MacIntyre sought to bring back into focus the idea that humans are intelligent, embodied, social beings whose lives can go ary when not guided by the care and instruction of others.[101]

As an opening question, MacIntyre asks, "What difference to moral philosophy would it make, if we were to treat the facts of vulnerability and affliction and the related facts of dependence as central to the human condition?"[102] MacIntyre stresses that how we address this question is bound up with our persistent refusal to think of ourselves as inherently dependent. Therefore, we need to be suspicious of our typical, philosophical modes of analysis which will often work from assumptions about physical and cognitive superiority. Moreover, this is tied to our denial of *animality*; that we are physical, embodied creatures alongside many others. To speak about dependence and vulnerability requires, therefore, a prior discussion of humans as essentially animal beings. This marks a large portion of MacIntyre's project.

In conjunction with this discussion and affirmation of animality, MacIntyre adds two critical theses. First, in order to affirm and understand our own rational agency, we

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[100] MacIntyre, A. (1999). *Dependent rational animals : Why human beings need the virtues* (Paul Carus lectures ; 20th ser). Chicago, Ill.: Open Court.

[101] A sampling of these feminist works include Gilligan, C. (1982). *In a different voice : Psychological theory and women's development*. Cambridge, Mass.: Harvard University Press, Held, V. (1993). *Feminist morality : Transforming culture, society, and politics* (Women in culture and society). Chicago: University of Chicago Press, Walker, M. (1998). *Moral understandings : A feminist study in ethics*. New York: Routledge, and Lindemann, H. (1997). *Feminism and families* (Thinking gender). New York: Routledge.

[102] *Dependent Rational Animals,* 4.

need to cultivate and exercise two sets of virtues: the virtues of independence and the virtues of acknowledged dependence. Both sets of virtues are necessary for our flourishing as human animals; animals that are both rational and dependent. Second, MacIntyre investigates the kind of social and political community that is needed in order to foster and sustain these virtues. Because of the brevity of this essay, I will draw selectively on MacIntyre's text in order to draw a connection between dependence and virtue.

Understanding what human beings are begins with describing them as among a class biological creatures; mammals, primates, and *homo sapiens*. However, acknowledging that simple relation puts us in a class, the class of 'animal', which has been rejected and repudiated. Animality belongs to other creatures, but not humans, who are rational, language using, and reason following creatures. These differences, related to rationality, language and reason supposedly separate us from other animals, or so the philosophical narrative goes. Yet, while these are significant differences, MacIntyre stressed the need to investigate how these capacities represent an opportunity not only to think about how we are different from other species, but how these relative differences reflect something about our own natures. It allows us to recognize our own animality, limitations, and eventually our own vulnerability.

For MacIntyre, understanding vulnerability and dependence stems from our understanding that we are creatures who grow and transition from a state of infancy and immaturity, to a period of adolescence and budding capacity, to a state of competence and excellence in a range of activities and relationships broadly typical of one's species. As creatures who evolve to have capacities for movement, speech, language, and rationality, we are infinitely more vulnerable than other beings. This is so because the

care, attention, instruction, and direction necessary to ensure that we are able to achieve a range of practical excellences is significantly greater and the ways in which it can go wrong infinitely more. Achieving characteristic human excellences is a function being a part of nurturing, attentive relationships that aim at one becoming an independent practical reasoner. MacIntyre observes that:

> We need others to help us avoid encountering and falling victim to disabling conditions, but when, often inescapably, we do fall victim, either temporarily or permanently, to such conditions as those of blindness, deafness, crippling injury, debilitating disease, or psychological disorder, we need others to sustain us, to help us in obtaining needed, often scarce, resources, to help us discover what new ways forward there may be, and to stand in our place from time to time, doing on our behalf what we cannot do for ourselves… And this is one of the points at which it is important to remember that there is a scale of disability on which we all find ourselves. Disability is a matter of more or less, both in respect of degree of disability and in respect of the time in which we are disabled. And at different periods of our lives we find ourselves, often unpredictably, at very different points on that scale.[103]

For MacIntyre, human lives are rightly characterized by dependence because they are lives that are lived alongside of and under the direction of those trusted and caring others who, having achieved the virtues of independent rational agency through relationship, now give the required instruction and attention. This is not always the case, as our caregivers are not always adequate, sometimes through no fault of their own. This, however, introduces a degree of luck and indeterminacy into all of our lives. We can, through poor upbringing, defective instruction, neglect, or by abuse, fail to develop into practical reasoners. Beyond these developmental observations, we remain vulnerable to injury, disease, emotional or psychological disorder, even as fully matured human reasoners. Moreover, even as agents who escape injury or illnesses, heartbreak

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[103] *Dependent Rational Animals,* , 73.

or tragic loss, we remain epistemically challenged in an environment of rapidly changing social, technological, and political elements. To be an independent practical reasoner, therefore, requires that we seek the counsel and advice of others in the midst of uncertainty. Therefore, while we are *independent*, in the sense of being able to make our own choices, we are *dependent* on the expertise and critical thought of others. Hence, practical reasoning is a collaborative and interdependent project carried out in the search for common social, moral, and political goods.

The dependency that MacIntyre endorses and exposes bears some similarity to other accounts, such as offered by Eva Kittay. He does shy away from the social constructivism and deconstructive projects that some disability ethicists would prefer, as he affirms an account of human flourishing that is grounded in an account of what is 'typical' and 'characteristic' for human beings *qua* human beings. His biological leanings here fly in the face of many ambitions demonstrated by other disability scholars. Yet, his account shows that human beings display vulnerability and dependence throughout life and does not assume that the ideal of human conduct is to rise above this animal condition; it is to excel in the task of being a *good* human being. Whatever the differences may be between MacIntyre and others, his account allows a transition to the advocacy of Rosemarie Garland-Thomson, and her critical perspectives on the concept of disability.

In her work, Garland-Thomson notes an apparent contradiction between the refusal to accept disability and the overwhelming influence that it holds over our lives as human beings.[104] This refusal, she claims, is a by-product of 'eugenic logic'; the position

[104] Garland-Thomson, R. (2012). The Case for Conserving Disability. Journal of Bioethical Inquiry, 9(3), 339–355.

that human life would be better if disability were eradicated. This position affirms the common understanding that disability is an intrinsic bad to be avoided and to be disabled is 'abnormal', dependent, and functionally limited. To be disabled is to be disqualified from certain domains of human experience. Worst still, it represents one's segregation from the social and economic privileges enjoyed by 'normal' persons, and confers a new, marginalized identity.

The critical questions in response to this eugenic logic are, "What reasons should we have to conserve disability?" and more fundamentally, "What is disability?" Garland-Thomson's explanation of disability, in contrast to MacIntyre, arises out of critical theory and social constructivism. She states that, "the human variations we think of as disability are interruptions or departures from a standard script of human form, function, behavior, or perception…"[105] Disability is a biopsychosocial reaction that occurs when we come into conflict with the environment; a "transformation of flesh as it encounters the world."[106] Disabilities are markers of capability, she claims, but more fundamentally they are signs of our inherent relation and receptiveness to be shaped by our interactions with the world. This is a dynamic, on going process in which we "evolve into disability" and directs our attention to the fact that our physical and mental selves need care, assistance; that "we are fragile, limited, and pliable in the face of life itself."[107] Disability and dependence, she argues, are essential properties of the human.

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[105] *Conserving Disability,* 342.

[106] Ibid.

[107] Ibid.

Against this constructivism is the logic of eugenics, which views disability as an assault on our bodies and persons; something we should and perhaps can avoid.

Rather than an argument for protection, which would presuppose drastic vulnerability to assault and discrimination, Garland-Thomson adopts an argument for conserving disability. She is careful to avoid the language of 'contribution', as if disabled persons are meant to find a manner of production within a society, and thereby rendering their existence more profitable, appealing, and acceptable. Her task, rather, is to "consider the generative work of disability and people with disabilities through their presence in the world."[108] It is important that we preserve disability and disabled bodies, not in spite of who and what they are, but because of who and what they are. Because of disability's fundamental connection to all human experience, it represents "circuits of meaning-making in the world" in narrative, epistemic, and ethical forms.[109]

Disability appears in cultural and historical narratives as correctives for many nondisabled persons. Through the work of Leslie Fiedler's *Freaks: Myths and Images of the Secret Self*, we see disabled bodies capable as a source that is "strange and unique" and which can "inspire wonder through their extravagant difference from ordinary folks and their simultaneous eerie, distant sameness to their unexceptional brethren."[110] Others view disability narratives as a resource that responds to the social

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[108] *Conserving Disability,* 343.

[109] *Conserving Disability,* 344.

[110] *Conserving Disability,* 344.

disqualification experienced by disabled persons - a counter story to a dominant, identity denying narrative, to use Hildemann's concept.[111]

Because narratives are the medium through which most human knowledge is and has been transmitted, stories of disability function as epistemic resources. Rejecting the birds eye, objectivist epistemologies that purport to be operating from a privileged standpoint, the knowledge garnered from narratives are situated, embodied, and particular. Following Jackie Scully's influential study of disability as a distinctive kind of embodied existence, she argues that there are modes of thinking about, acting in, and engaging with the world that are particular to disabled persons - a source of knowledge denied to nondisabled persons.[112] Garland thomson maintains that this "subjugated knowledge" should be construed as an asset rather than a liability; a "minority skill set."[113] The challenge of navigating a physical and social environment that is not designed for disabled bodies necessitates skills, planning, and thinking that is not required of nondisabled persons. She goes on:

> Acquiring or being born with the traits we call disabilities fosters an adaptability and resourcefulness that often is underdeveloped in those whose bodies conform smoothly into the prevailing, sustaining environment. People born without arms, for example, all learn to use their toes to accomplish tasks that those of us with arms are not able to do and often cannot imagine. Deaf people develop modes of communication that

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[111] See Lindemann, H. (2001). *Damaged identities, narrative repair*. Ithaca, N.Y.: Cornell University Press. Lindemann argues that social identities are constructed by relationships and the narratives we tell about ourselves and narratives told about us. When we suffer social or political alienation, our identities are being denied or fractured, and in response we must develop a 'counter story' to reestablish our identity

[112] See Scully, J. (2008). *Disability bioethics : Moral bodies, moral difference* (Feminist constructions. Lanham: Rowman & Littlefield.

[113] *Conserving Disability,* 346.

> are silent, reach across long distances, and are particularly effective in babies whose capacity to speak is undeveloped.[114]

Moving from narrative to knowledge, Garland-Thomson proposes that disability has significant ethical lessons for society. Noting arguments by Michael Sandel, she insists that we must continue to see our children as 'gifts' to be accepted, not products to be produced. The 'giftedness' of disability and disabled children offers us opportunities to refine and preserve parenting practices that we otherwise would not. Parenting, including that which is related to the disabled, is a cauldron of virtue that we should not overturn for the efficiency, control, and hubris that is implied by our attempts to control the way life naturally occurs. By preserving the gifts of nature, including those provided by procreation, Sandel is affirming a bioconservative position that extends to the effort to preserve the disabled. Failure to do is to fall victim to the fallacies of modernity; to the cultural and technological narratives that reinforce our arrogance, overreliance on autonomy, and supposed superiority over all of nature.

From Garland-Thomson's work we move to Eva Kittay, who argues for a more explicit connection between an ethic of care and the dependency inherent to human beings. In a series of articles, Kittay has offered reasons for using this ethical framework, in addition to certain challenges that have been raised against it.[115] We will return to these difficulties later.

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[114] Ibid.

[115] See Kittay, E. F. (2011). *The Ethics of Care, Dependence, and Disability*. Ratio Juris, 24(1), 49–58, (2005). At the Margins of Moral Personhood. Ethics, 116(1), 100–131, (2006). *The Concept Of Care Ethics In Biomedicine: The Case of Disability*. Bioethics in Cultural Contexts International Library of Ethics, Law, and the New Medicine, 319–339, Kittay, E. F., Jennings, B., & Wasunna, A. A. (2005). *Dependency, Difference and the Global Ethic of Longterm Care**. Journal of Political Philosophy, 13(4), 443–469, and

Faced with political, economic, and social discrimination, the lives of people with disabilities need to addressed by an moral framework that can affirm their lived experience and also offer a pathway towards hope and flourishing ways of life. Kittay notes that traditional conceptions of justice, and dominant understandings of what the ideal political subject look like make it difficult to establish just practices for disabled persons. Liberal conceptions of rights favored by Rawlsian political theorists restrict moral standing to agents who are rational and autonomous; assumptions which are unflattering, if not hostile to populations with disabilities. Justice, dignity, rights, and duties are insufficient when conceived in these terms.

In response, we need an ethic which directly responds to the conditions of people with disabilities, as opposed to people who are "temporarily abled." A concept that is widely used when discussing the needs of people with disabilities is 'care'. Kittay notes that under legislation that attempts to protect the rights and accommodations for persons with disabilities, such as the Americans with Disabilities Act, care is viewed instrumentally. This view of 'care' and its practical applications, risks making those in need into supplicants; persons at the mercy of a benevolence system as opposed to individuals with dignity exercising their powers to live well.

The relationship asserted and described by such legislation places the person in need of care in a role of a 'dependent' and casts the caregiver as an 'independent'. This scheme makes independence a goal and an ideal, and dependence an unfortunate circumstance. This is unacceptable, Kittay claims, as she argues, "The emphasis on Independence extols an idealization that is a mere fiction, not only for people with

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(2018). *Human Dependency and Rawlsian Equality*. Feminists Rethink the Self, 219–266.

disability, but for all of us. The emphasis on choice leaves out many people with disabilities for whom making choices is problematic as their cognitive function may be seriously impaired. And the denigration of care and dependency tends toward an attitude that makes the work and value of the carers invisible, thus creating one oppression in the effort to alleviate another." [116]

Even as she casts doubt on the role of care that is extolled in popular legislation, Kittay maintains that care is a central and indispensable good, "without which a life of dignity is impossible and which is itself an expression of a person's dignity."[117] An ethic of care has the resources to affirm the reality, significance, and dignity realized in a dependent state; it has the inclusive potential that traditional systems of justice lack.

In Kittay's view, care can refer to acts of labor, intentional attitudes, and also to virtues of character. As an act, it refers to the process of maintaining others when they are in a condition of need and requires various skills on the part of the carer. At attitude of care denotes a positive attachment to, and appraisal of, the one being cared for. Without such an attitude, we fail to attend especially to the intimate needs of those we care for. As a virtue, care is a disposition that reliably manifests in caring behaviors and caring attitudes and represents a shift in priority from our own well-being to the well being of the one in need. An ethic of care, if it is to be holistic, must take into account all three of these aspects. Further, an ethic of care requires a reworking of traditional conceptions of the moral subject, moral relations, moral deliberation, and harm. Within a feminist ethic of care, subjects are relational and intrinsically social. Moral relations

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[116] *The Ethics of Care, Dependence, and Disability*, 51.

[117] *The Ethics of Care, Dependence, and Disability*, 52.

are between equals and unequals; between those with power and influence and those without. Moral deliberation is not a matter of reason, singularly, but a function of emotional responsiveness, and perceptual sensitivity. Finally, harm is not a failure to respect rights; it is a failure to honor and preserve the terms of a relationship and the responsibilities inherent to it.

The standard objections to an ethic of care arise from considerations within and outside feminism. As Kittay reports, feminists sometimes object to care as a category because it will lead to the further subordination of women who have historically been expected to adopt caring roles and caring professions. Care, in other words, will detract from the social and political imperative to liberate women from a patriarchal system. A second objection comes from people with disabilities: Care implies an image of dependency which fails to address and refute the power inequalities so prominent in our culture. Third, care is often viewed as a private matter, not as a social and political ideal. Kittay provides a series of responses to these objections, but I will not detail them here.[118]

Instead, we will look further to the intersection of care and virtue theory. It has sometimes been argued, most notably by Michael Slote, that care ethics is really a kind of motivation-based virtue ethic.[119] Slote argues for empathy and beneficence as

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[118] In short, Kittay argues that the emphasis on care reveals the moral voice of subjugated persons, rather than relegating them to their social roles. Second, rather than extolling independence, which reinforces the biases of abled bodied persons, we should elevate the category of dependence and demonstrate its importance. Third, the idea that the distribution of resources is not a matter of care is a mistake; the care we display and practice in private domains can become a source of political power and persuasion.

[119] See Slote, M. (2001). *Morals from motives*. Oxford ; New York: Oxford University Press, and (2007). *The ethics of care and empathy*. London ; New York: Routledge.

fundamental moral concepts that characterize the appropriate motives for virtuous activity. Others, like Raja Halwani, argue that conceiving care as a virtue can avoid standard problems facing an ethic of care.

Beginning with the early work of Nel Noddings on care and caring relations, Halwani raises a series of difficulties.[120] The central concern is whether care ethics can be constructed as a stand alone theory of moral action, emotion, and motivation. To this end, two aspects of Noddings' work have raised objections: her claim that caring is ethically and ontologically basic and that genuine caring occurs only between those who are in relationship. Claudia Card has objected that we cannot sensibly abandon obligations to others simply because we are not intimately related to them in a relationship.[121] Hence, we need an additional concept to account for our obligations to strangers. Not unrelated, Victoria Davion challenges Noddings' assertion that caring relations are devoid of judgment and involve "motivational displacement."[122] If we are not permitted to evaluate and intervene in the lives of those cared for, we risk being changed for the worst. We must be able to judge whether someone is worth caring for and also how the relationship will negatively impact our lives. In short, we must maintain a sense of integrity, which is incompatible with a manipulative relationship.

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[120] See Noddings, N. (1984). *Caring, a feminine approach to ethics and moral education*. Berkeley: University of California Press. For later developments in Noddings work, see (2003). *Caring : A feminine approach to ethics & moral education* (2nd ed.). Berkeley: University of California Press, and (2013). *Caring a relational approach to ethics & moral education* (2nd ed.). Berkeley: University of California Press.

[121] Card, Claudia. (1990). *Caring and Evil. Hypatia* 5 (1): 101-108.

[122] Davion, Victoria. (1993). *Autonomy, integrity, and care. Social Theory and Practice*. 19 (2): 161-182.

Halwani adds to these criticisms by noting that, while Noddings is right to emphasize the role of relationships in our moral life, we must be active and critical participants. Serving the interests of our partners, friends, and loved ones is not only a matter of aiding them in their goals and projects but about evaluating whether those goals and projects are *genuinely good* for them. Caring for another is partially about looking to their well-being, and we can readily see that sometimes the actions and aspirations of our friends and loved ones, unbenounced to them, are contrary to their own well-being. If this is so, then *caring* must include intervention and critical appraisal, not acquiescence. This is not compatible with Noddings' original account. Despite these difficulties, Halwani affirms the central strengths and concerns of care ethics:

> First, care is aimed at particular people that the moral agent is in relation with. Second, it involves the element of motivational displacement, usually in an indirect form, and involves a certain critical amount of engrossment. Third, because care relationships typically involve caring for our loved ones, for those who are dear to us, we can add the further element that care has an important emotive dimension, such that when one cares for X also expresses emotion, by, for example, being happy to care for X, being pleased to do so, and desiring to do so.[123]

In addition to these concerns, Halwani notes that caring actions are characterized by four salient features. First, caring involves the agent acting towards another that they are in relation with, such as a friend or lover. Second, caring involves knowledge that is about the particular person being cared for. Third, acting from care usually does not involve moral principles. Fourth, caring typically involves acting with and through emotion. In these features there are four aspects of our moral lives that need to be

[123] *Care Ethics and Virtue Ethics*, 166.

attended to in theory and practice: persons and relationships, intimate, contextual knowledge, emotions, and partiality. Halwani agrees that an adequate moral theory should address these matters and claims further that virtue ethics can readily adopt them.[124]

Unlike care ethics, however, virtue ethics does not take relationships to be ethically basic, contra Noddings and others. The concept of flourishing has ethical priority for virtue ethicists, however the goods internal to flourishing lives include relationships. Alongside internal and external goods are the virtues; stable dispositions to think, act, and feel appropriately and in ways that are conducive to flourishing. In much of the virtue ethical tradition, virtues are acquired by habituation, and bear some resemblance to practical skills in other dimensions of life.[125] Virtue ethics can accommodate care as a virtue which incorporates action, attitude, and disposition, as Kittay argues. Though it cannot give care ontologically basic status, this is not problematic. Care still retains the status of a virtue, made even more relevant by feminist contributions on dependence and disability, and enriched by other related virtues.

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[124] For Aristotelians, virtue ethics rests on claims about our social nature. Those aspects of care that speak to relationality and dependence find a home in a conception of virtues that require the input and development from within the context of family, community, and instruction from more experienced others. Further, without stable, relational ties to family, friends, and political community, the possibilities of a good life are greatly diminished. Nor are these relationships simply instrumental; rather they are *constitutive* of our flourishing as beings who are emotionally and physically bound together.

[125] See Annas, J. (1995). Virtue as a skill. *International Journal of Philosophical Studies*, *3*(2), 227–243, (2001). Moral Knowledge as Practical Knowledge. *Moral Knowledge*, 236–256, (2012). Practical Expertise. *Knowing HowEssays on Knowledge, Mind, and Action*, 101–112, and (2011). *Intelligent Virtue*. Oxford University Press.

Interestingly, Noddings herself denies that care is a virtue because focusing too much on one's individual character might detract away from the centrality of the caring relationship. From the perspective of virtue ethics, however, care fits both the definition and the criteria for a virtue. From an Aristotelian perspective, a virtue is a state involving choice, lying in a mean, with the mean relative to the individual.[126] Care certainly fits this basic structure as caring behaviors involving choices about when and how to and towards whom to direct one's attention. Similarly, caring can fall in a mean; it can be performed "at the right times, about the right things, toward the right people, for the right end and in the right way."[127] Further, care meets the criteria for a virtue; it is a trait that is conducive to the flourishing of the agent who possesses and displays it. Halwani explains:

> It is an obvious point to make that without proper care human beings cannot generally grow up to leave mentally and emotionally healthy lives. This indicates strongly that proper care is generally necessary if one is to flourish. Furthermore, if intimate relationships are essentially characterized by caring, and if flourishing is constituted by intimate relationships (among other things), then the necessity of caring to a flourishing life stairs us obviously in the face. Without giving and receiving care, the sociality and the rationality of the agent is seriously endangered, and this strikes at the heart of the agents flourishing *qua* human being.[128]

One issue that needs to be addressed briefly is the relationship between virtue ethics and disability. For if care ethics is invoked to emphasize our dependent and often disabled nature, and care ethics is a form of virtue ethics, broadly construed, then it

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[126] 1985. *Nicomachean ethics*. Trans. Terence Irwin. Indianapolis: Hackett, 1107a1-4.

[127] *Nicomachean ethics*, 1106b20-23.

[128] *Virtue Ethics and Care Ethics*, 183.

must be shown that virtue ethics can be a hospitable framework for people with disabilities. This is not obviously so, especially for those with cognitive disabilities.

For those that follow Aristotle, the distinctively good *human* life is a life of rational activity in accordance with virtue, with the addition of some external goods. A human life is flourishing insofar as one acquires the virtues through study, habituation, and contemplation of divine things, and insofar as one lives within a political community committed to sustaining the external conditions necessary to live well. Already, there are problems lurking in this account for neurotypical persons, as political arrangements are often unstable and the opportunities to study and learn from morally competent mentors and family members is, in many ways, an accident of fortune. In this way, living well is not completely under the control of the individual, but depends on some degree of moral luck. Living well, in short, is never guaranteed for anyone. Even the financially and socially privileged may squander their opportunities, or be subjected to unfortunate circumstances.

Despite the inherent unfairness of life for many people who are neurotypical, there are more severe problems for those who are neurodiverse. At the center of the Aristotelian scheme is a commitment to achieving *excellence*, or virtues, which is a kind of cognitive-emotional harmony with regards to feeling, thinking, and acting persistently and characteristically in light of one's aims and goals. Immediately, it seems that there is a highly regarded ideal of *psychological unity* and *practical intelligibility* that is presupposed in the life of the 'ideal' person.[129] However, people who are

[129] See MacIntyre, Alasdair C. *After Virtue : A Study in Moral Theory*. 3rd ed. Notre Dame, Ind.: University of Notre Dame Press, 2007, chapters fourteen and fifteen.

neurodiverse may lack certain socio-cognitive features and abilities that allow for this kind of psychic harmony. If this is so, we are left with a kind of excessive moral elitism whereby those cannot acquire the virtues cannot become wholly admirable persons and cannot live good lives.[130]

This is a moral ideal that threatens our capacity to engage and regard cognitively disabled persons as those more worthy of consideration, and threatens to impose the kind of legalistic notion of lesser moral status. To evade this implication, we need to reassess our ideas about what constitutes a flourishing life and perhaps what constitutes a virtue. One avenue for this reassessment is provided in the work of Daniel C. Russell.[131] Russell contends that to pursue virtues is to look for ways to improve and live better. Idealization of goodness, rightness, and persons who exemplify these qualities are indispensable for that reflective process, however we cannot accept ideals which are wholly different from us, including those who are cognitively disabled. Aristotle's *phronimos,* the practically wide man, is a fine example, but only when it is not exaggerated to mean an intellectual genius, or a saintly paragon of virtues. Russell argues that we must begin with notions of improvement that correspond to some *attainable* ideal. But in order to do this we must grapple with our limitations, both inherent to our psychological make-up and those imposed by society.

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[130] It is this feature of virtue ethics that has driven some to adopt a consequentialist account of the virtues. See Driver, Julia. *Uneasy Virtue*. Cambridge Studies in Philosophy. Cambridge, UK ; New York: Cambridge University Press, 2001.

[131] See Dan Russell's "Putting Ideals in Their Place," in Snow, Nancy E. *The Oxford Handbook of Virtue*. New York, NY: Oxford University Press, 2018.

Following these initial points, Russell advocates a "path dependent" approach to the virtues.[132] The path that we can pursue is framed by the web of relationships, expectations, and obligations we already have when we consider how we want to approach improving our lives. A path-dependent approaches takes this embodied and socially situated nature of humans seriously and holds that the desire to improve is aspirational *within realistic possibilities given* by the life of the person. Russell, further, takes Aristotle's view about flourishing seriously.

Aristotle acknowledges that a life of flourishing may contain various kinds of goods, including wealth, family, friendship, health, social status, and political engagements. However, beyond these bare assertions, Aristotle makes no argument for a strict and determinate kind of life. Even within the Greek culture there were divergent ideological, religious, and philosophical positions about the nature of a good life. Aristotle criticizes various positions, such as the hedonism extolled by later Epicureans and the metaphysics of his teacher, Plato. Despite these criticisms, Aristotle leaves the conception of eudaimonia broad and revisable. What is not left vague, however, is the necessity of the virtues and the emphasis on the *way a person lives their life*. This is the "ingenious" solution, as Russell sees it. Aristotle allows that many different lives can be considered "good" so long as they are lived in a practically wise way and that they are lived with attention to sound emotions. There is a difference, as Julia Annas puts it, between *the way* you live your life and the *material conditions of your life*.[133]

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[132] The avenue to the virtues is "path dependent" because by the time we are choosing to improve, we already have a life filled with goals, expectations, responsibilities, and we are centered within a society, a tradition, and a political arena. The way we can develop and improve depends on how we are currently situated, which determines, to some degree, what ideals are attainable.

[133] See *Intelligent Virtue*, chps. three and eight.

This suggestion means that we can sensibly maintain some aspects of Aristotle's ethics, while also insisting that a *pluralistic* account of the human good is plausible. Moreover, we can suggestion it is *necessary* in virtue of our acquaintance with disability and disabled persons. Neurodiverse persons must be cognizant of the fact that their own capacities to live well depend, not on adhering to some standard of 'ideal neurotypicality' but by gradually learning what their own bodies and minds will permit by way of an achievable ideal. Similarly, neurotypical persons, such as Aristotle had in mind when he was lecturing, should acknowledge the capacity for progress and excellence by disabled persons. A recognition that excellence is *relative* to the capacities currently present moves us to adopt a standard of compassion and patience and also changes the dimensions of justice that apply to persons who experience life in radically different, and often very difficult ways.

The philosopher Garret Merriam makes a similar argument.[134] Merriam points out that Aristotle's notorious 'function argument', based on his teleological biology, as well as his views of women and "natural slaves," make him a dim candidate to represent the disabled community. However, if we can correct the false assumptions made in Aristotle's biology, or put it aside altogether, we may get a more plausible picture. Like Russell, Merriam suggests that the fundamental question is not "how does this individual compare to a *species-norm* in terms of the capacities necessary for flourishing?" but instead, "given the individual circumstances of this person's life, are

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[134] See "Rehabilitating Aristotle: A Virtue Ethics Approach to Disability and Human Flourishing," in Ralston, D. Christopher, and Justin. Ho. *Philosophical Reflections on Disability*. Philosophy and Medicine ; v. 104. Dordrecht ; New York: Springer Verlag, 2010.

they living well, or living poorly."[135] Merriam connects this with the Stoics, and concludes that Aristotle's biology should be supplanted along with his overemphasizing of external goods.

In Merriam's view, the job of the community at large is not to determine the worth or activities of disabled persons, but to better empower them to improve their practical reasoning. His particular case study is that of Helen Keller, who, despite multiple disabilities, lived an accomplished life and exemplified many virtues that we frequently admire: courage, resiliency, self-knowledge, compassion, and wisdom. It is not useful, according to Merriam, to ask whether Keller's life would have been better had she not been disabled. It is better to ask if Keller lived well in her own context and circumstances. By all the evidence, Keller lived very well and she could sensibly be looked at as an exemplar for many others to follow despite her difficulties.

Given our discussions of care, disability, and dependence, we can return to the discussion of genetic technology. Though the moral and political affiliations of researchers is largely unknown, Crispr is a driving force away from the moral and political ideals of care and interdependence. Whether it is explicit in the minds and policies set forth by the medical and scientific community, there is a growing tendency towards the ambitious transhumanist future - a world bereft of limitation and dependence - of 'humanness' itself.[136] Crispr gene therapies are only a subset of applications, and are among the most benign. However, applying Crispr technology to reproductive practices, along with the professional legal legitimization that will follow,

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[135] *Philosophical Reflections on Disability*, 135.
[136] See Bostrom, N. (2005). *Transhumanist Values*. Journal of Philosophical Research, 30(9999), 3–14.

introduces a range of societal and familial issues. As examples, let us consider arguments by Robert Sparrow and Michael Sandel.

Sparrow's argument against the prospects of human genome engineering centers around the commodification of embryos and the eventual children that will be born. The problem is not that these are (or will be) individuals who will value certain activities and have various talents which may be undermined by the genetic preferences of their parents. The social and personal risk is that our children will become *obsolete*.[137] Like every other commodity, there are some that are more efficient, attractive, and desirable. Much like the environmentalist Bill McKibben, who argues that genome engineering is a gateway to a "genetic arms race", Sparrow worries that we are on the verge of making any and every child out of date, as there will always be another enhancement. This produces two social problems, one involving family planning and disclosure, and another about the psychological toll genetic enhancements will have on the child.

Imagine you are a young couple in 2046 and you are sitting with an obstetrician and a genetic counselor. Presumably, (or for the sake of the example) genetic editing has reached a new peak and you are now called upon to make decisions for your embryo. "Can we interest you in a higher IQ? Two more inches in height? Brown hair or blond?" While this may sound far-fetched, such enhancements are not beyond the pale and are highly sought after, even without genetic engineering. Think of this future couple, contemplating when to have children when they know that, although *today* I could have a tall, male, blond haired, potentially smarter child, I could actually wait another six months, maybe a year, and have an *even smarter child*, once the technology makes its

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[137] Sparrow, R. (2019). Yesterday's Child: How Gene Editing for Enhancement Will Produce Obsolescence—and Why It Matters. *American Journal of Bioethics* 19 (7):6-15.

next stride. Why buy this year's iPhone when the next one will come out in three months? Who doesn't want a slightly sleeker phone with a better camera lens? Consider the societal pressure on parents to have smarter, more capable children. Children with greater potential, with less deficient in attention, would be greatly desired in daycare centers, in various public school districts, and may even be required to be admitted into private school. How would we, as parents, make decisions about when to have children when every child is a "lesser" version of the next?

Consider the personal costs to an individual who discovers that they are among the first generation of genetically altered children? Will it provoke shame? Disgust? Amazement? Pride? How will such knowledge affect their perception of themselves, especially in light of the comparison between them and their highly developed classmates? What will it be like, Sparrow asks, to be "yesterday's child?" There is no definitive answer to this question, but if we think about how, in American culture, older persons are maligned for lack of technical knowledge, lack of progressive ideas, and an inability to "Keep up with the times", how can we brush aside the possibility that *being* a genetically obsolete person will be any different?

When you consider further that genetic engineering is (or likely will be) a luxury affordable only by those of a higher socioeconomic status, and you cannot avoid the conclusion that we are on the verge of a new and unpredictable social hierarchy that is complicated beyond race, ethnicity, and economics. Though we could imagine a world in which the least advantaged could "catch up" to the most privileged by means of genetic enhancement, this is not realistic given how economic resources distribute power and influence in our actual, current society. Genetic engineering will be a product used by the upper echelon of society, which begs the question of how we will deal this new form

of inequity. Michael Sandel draws our attention to this and states our social and moral responsibilities grow out of our recognized solidarity; that we share in the genetic lottery, whether set up by God or evolutionary processes.[138] Whenever something threatens our shared sense of fate, community, and success, distributive justice for the less fortunate of society is also undermined. When we allow society to create a new hierarchy based on "selected" genes, rather than "given" genes, we lose a sense of commonality, and therefore, we undermine the need to be responsible for those less able to be among the "chosen".

In Sandel and Sparrow's concerns lie deep and abiding moral issues that we may have to face together. Care, as a virtue and as a political ideal, must be considered to counteract advancing conceptions of "genetic perfection", ideal rationality or intelligence, and the social hierarchies that may follow. Along with the enduring imperative to upset social inequities based on race, gender, ethnicity, and socioeconomic status, and maintaining spheres of caring relations, feminists and disability scholars can unite behind an effort to forestall genetic engineering until we grapple with the future of reproductive practices and until we understand how manage caring relations within a new genetic hierarchy. As Joan Tronto suggests, "the ethics of care entails a basic value: that proper care for others is a good, and that humans in society should strive to enhance the quality of care in their world so that we may live as well as possible."[139] We have yet to see how Crispr technology will shift the balance of power, privilege and well

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[138] [39] Sandel, M. (2007). *The case against perfection : Ethics in the age of genetic engineering*. Cambridge, Mass.: Belknap Press of Harvard University Press.

[139] Tronto, J. C. (1995). Care as a Basis for Radical Political Judgments. *Hypathia*. Spring, 1995, Vol. 10, No. 2. 141-149.

being, but our optimism should be tempered by a perspective that affirms the caring relationships and caring political arrangements.

Chapter Five: Historical Accountability and a Shadow of Eugenics

In the two previous sections, I discussed two virtues that are relevant to the development and implementation of genetic technology. The first, through Dewey and his conception of practical reason, was *forward-looking* and experimental. The second was care, articulated by feminists and disability advocates, who focus on dependence and disability as conditions of ordinary life and agency, *here and now*. The virtues I now turn to are explicitly *backward looking*, or, if you like, historically sensitive.[140] There is a tradition that has emerged in moral philosophy which not only takes narratives to be useful for ethical reflection, but takes cohesive, narrative *construction* as a basic ethical task; having a life and a personal identity is bound up with our ability to tell a coherent story of ourselves.[141]

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[140] I hope that it will become clear that I am not using "backward looking" in a derogatory manner. I hope to avoid the common objection that I am merely "stuck in the past" and suggest that an evaluation of present and future events are only intelligible in light of past actions and histories.

[141] A classic statement of this was put forward in the work of Alasdair MacIntyre. See MacIntyre, A. (2007). *After virtue : A study in moral theory*(3rd ed.). Notre Dame, Ind.: University of Notre Dame Press, esp. Chapters 14 and 15. See also, Lindemann, H. (2016). *Holding and letting go: the social practice of personal identities*. Oxford: Oxford University Press. For some applications, see Lindemann, H. (2001). *Damaged identities, narrative repair*. Ithaca, N.Y.: Cornell University Press and Lindemann, H. (1997). *Stories and their limits : Narrative approaches to bioethics* (Reflective bioethics. New York: Routledge.

In the sections explored below, I hope to show how our ethical choices about genetic technologies are inextricably bound up with, and must be guided by, our relationship to the past the history of genetic innovation. The virtues that help us to remain vigilant about the dangers of present technology should be balanced and reinforced the virtues that remind us of the scientific past. Together, they can hold together a narrative of our ethical lives and guide us towards morally responsive decisions.As an introduction, I turn to the work of Margaret Urban Walker.

Walker's work in feminist ethics has always focused on the need for sociological, literary, and historical context, specifically her writings on reparative justice and mutual accountability.[142] In some of her more recent work, she has extended her views to include a need for 'the virtues of historical accountability and civic integrity.'[143] Walker's aim is to explore "the moral stakes in communities and societies that do not seek the truth about their own pasts, where their denied, buried, edited, or confabulated history is one of grave injustice."[144] Secondarily, Walker argues that communities have an obligation to be accountable for their histories and that it is a virtue of individual citizens to strive for this accountability in their society. These virtues will be a cornerstone for our ethical considerations later, so I will investigate them first. Before proceeding, will will need to understand a little about the concept of accountability.

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[142] See Walker, M. (1998). *Moral understandings : A feminist study in ethics*. New York: Routledge, and Walker, M. (2010). *What is reparative justice?* (Aquinas lecture ; 2010). Milwaukee, Wis.: Marquette University Press.

[143] See "Historical Accountability and the Virtue Of Civic Integrity" in Werpehowski, William, and Kathryn Getek Soltis. *Virtue and the Moral Life : Theological and Philosophical Perspectives*. Lanham, Maryland ; London, England: Lexington Books, 2014.

[144] *Historical Accountability and the Virtue of Civic Integrity*, 40.

In Walker's account, accountability is a relation between persons in which A is accountable to B concerning aspects of A's conduct that are related to B's interests and expectations. Accountability, according to Walker, is the relation at the heart of moral thinking and theorizing, though it stretches beyond moral behavior. Moral relations are sustainable only insofar as we can continue to maintain the norms of responsibility that reinforce mutual accountability. By calling ourselves and others to account, we maintain the relationships that enforce and affirm the existence of norms that apply to our lives and conduct.

Accountability can be rejected, in some cases. In doing so, however, one is pushing back against the presumption of relationship or the expectations assumed in that relationship. Or, possibly, one rejects the terms or norms that are invoked in being called to account for one's conduct. Alternatively, accepting a call to account is an implicit acceptance of the norms governing one's life and communities and an affirmation of the relationships that maintain those norms. The continual "call-and-response" functions as the medium for relations of accountability; as an ongoing practice of accepting or rejecting relationships.

Rendered in the brief explanation above, accountability requires *answerability*; "a presumption that someone can be called to answer, to stand before others for an examination of and judgment upon his or her behavior."[145] This is an interpersonal standing which is perpetuated by how one perceives others and how one is perceived by others. Though this standing has obvious legal and judicial colloraries, where accountability and answerability give way to punishment and sanction, it also has a

[145] *Historical Accountability and the Virtue of Civic Integrity*, 42.

distinctive moral valence where parties adopt mutual acceptance even when there is no natural authority to punish one another. From here, we shift to *historical* accountability.

According to Walker, historical accountability is "a moral obligation of communities, societies, or nations to aim at a truthful version of events in their own history.[146] She is particularly concerned with histories that involve grave wrongs and systemic injustices, and those which have deliberately suppressed those histories. To this end, she relies on the United Nations "Study on the Right to the Truth," which states that having injustice and torment acknowledged is a right along with the right to have corrupt and oppressive histories exposed. This right corresponds to a profound need on the part of victims to be heard, as well as to the fundamental duty to provide answers. Along with the duty to expose is the duty to prevent negationist and revisionist histories that seek to suppress injustice, discrimination, and significant harm.

Lack of historical accountability leads to addition harms after the initial acts, policies, or systemic barriers are upended. Those negatively affected remember the wrongs committed against them but must live in a community in which there are others who deny their experiences, their disadvantage, and their lack of privilege. They must battle against epistemic ignorance, denial, or worse, against deliberately inaccurate histories that prevent the truth from coming out. When attempting to correct these mistakes, they are criticized, marginalized, called fanatics, deemed unpatriotic, and are cast as "sore losers." The burden of proof rests with those who experience the trauma associated with systemic violence. Those who stand or live apart from these histories remain hopelessly ignorant and perpetually doubtful. The lack of accountability, and

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146 *Historical Accountability and the Virtue of Civic Integrity*, 43.

inept practices of answerability that follow, breed discord and injustice across generations. As Walker suggests:

> When a society, through its major educational and civic institutions, shirks accountability to its citizens for an honest history, it effectively denies the reality of the history and experience some, reject the application of norms of justice in their case, or fails or refuses to support a relationship of due recognition of and respect for them…In doing so, it contributes to relationships of unequal respect among citizens and relationships deformed my misrecognition, contempt, resentment, and alienation. [147]

Walker notes the immense difficulties in recalling, recording, and maintaining histories. It is not simply a matter of bringing to light a suppressed, and often violent, history. It is the challenge of how to reconcile different historical modalities. There are different kinds of 'unknowing' and 'misknowing' when it comes to historical accountability. She notes that, "The problem for societal truthfulness can be conflict or denial, but it is often silence, euphemism, selective attention, redemptive framing, or fables where truths should be." [148] Nevertheless, to be historically accountable requires diligence and a commitment to representative, accurate histories that focus as much on the oppressed "losers" as it does on the triumphant "winners." There can be no accountability and no true virtue when only convenient, self-gratifying, and status quo preserving aspects of history are presented.

Walker's treatment, which is interwoven with narrative and historical anecdote, deserves a much closer study than offered here. What this treatment does offer, I hope, is a framing for accountability about history, historical ambitions for technology, and for also for the ethical necessity to attend to our past as we contemplate our present. As

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[147] *Historical Accountability and the Virtue of Civic Integrity*, 45.

[148] *Historical Accountability and the Virtue of Civic Integrity*, 46.

we will see below, the current innovations in genetic technology have a history that tied to eugenic practices, both benign and malicious. Understanding how accountability, history, and ethical virtue are linked together can help us get a better look at contemporary moral issues with genetic research and technology.

First, I will review Walker's argument about civic integrity, without which historical accountability cannot be sustained. Walker understands civic integrity to be "a resolute disposition of citizens both to demand that their society be accountable to them for truthful histories and to assume the responsibilities - epistemic, moral, and political - that truthful histories might imply."[149] The failure of citizens to acquire and display civic integrity results in complicity and oppressive, misleading histories. Further, and most often, it leads to "a form of disrespect to some of their fellow citizens, whose status as truly equal members of the polity or community may be challenged."[150]

Integrity functions as a virtue in relations of accountability because it is the virtue that sustains the success of those practices; the "calling" and "being called" to account. To fail to have integrity is to fail to respond appropriately when called to account for one's actions. "Civic" integrity, in Walker's view, refers to individuals in their roles as citizens, specifically citizens of a liberal democratic society committed to the basic equality of all who live within that society. To have and display civic integrity is to reject "hypocritical, dishonest, evasive, or corrupt activities of… society."[151] Walker goes on:

> …Civic Integrity extends to protesting one's own societies engagement in covert agendas that are covert precisely because they cannot be publicly defended. It refuses and confronts rationalizations of official practices that violate basic values to which the society claims to be committed, such as

[149] *Historical Accountability and the Virtue of Civic Integrity*, 40.

[150] Ibid.

[151] *Historical Accountability and the Virtue of Civic Integrity*, 49.

> the justification of torture based on appeals to fear and expediency. It resists temptation to shirk or evade historical obligations, such as treaty obligations or unfulfilled obligations of reparation for enduring and justices, when they are inconvenient or unpopular. Most obviously, it condemns endemic or systemic corruption, such as bribery, cronyism, nepotism, and influence peddling as ways of doing business or opportunistic lies in political discourse and debate.[152]

The connection between historical accountability and civic integrity is broader than this, however. Civic integrity drives us towards practices of preserving and uncovering the truth, accepting whatever is discovered, however painful or embarrassing. It is a stable and consistent desire to support those individuals and institutions that work to uncover the truth. Where it is acknowledged or accepted that societies have a responsibility to present honest and transparent accounts of history, civic integrity must be displayed and affirmed. Against this virtue is the ever present desire to maintain the comfortable illusion; the vision of society that is "already" and "always" just, fair, and open to all. It is a vice of historical complicity, and an unwillingness to answer for one's denial.

These vices are widespread, take various forms, and represent an undeniable fact: the truth is often uncomfortable, disheartening, incriminating, and paradigm shifting. Walker acknowledges this and does not shy away from its consequences, stating, "Civic Integrity must combine a resilient admiration for truthfulness with an understanding of its complexity and the social costs and conflicts it might entail."[153] Further, the practices associated with civic integrity must extend not only to uncovering and presenting historical truths often ignored, but preserving them against forgetfulness, new

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[152] *Historical Accountability and the Virtue of Civic Integrity*, 49.
[153] *Historical Accountability and the Virtue of Civic Integrity*, 50.

revisionists histories, lapses in educational systems, and malicious suppression. These practices mean supporting a wide variety of truth-preserving institutions and ensuring that marginalized groups have the capacity to lend a voice to critical, ongoing debates about justice, rights, and reparations.

The brief account of accountability and integrity above speaks to a wide array of social and political issues currently debated. Yet, as we turn to the innovation of genetic technologies we may wonder how they apply. Scientific research should be about the relevant facts supported by data, experimentation, and consensus by prominent experts. However, this is naive. Scientific innovation is laden with political and ethical commitments, and crucially, its development has a long, and often controversial, history. When we investigate the history of genetics and the aspirations that often accompany its development, we uncover many examples of violence, exclusivism, racism, and intolerance. The mastery of genetics is, after all, another attempt to control, alter, and shift the direction of human evolution. In doing so, we always make certain capacities, characteristics, desires, and outcomes optimal, desirable, and worthy of further pursuit, while others are pitiable, unfortunate, suboptimal, and worthy of eradication. The efforts of genetic innovation are bound up with our obsession with mastery. We must wonder, in mastering and designing our future, whose stories, lives, and existence is being affirmed, and whose is not.

Historical accountability and civic integrity prompt careful and critical investigation into the histories of genetics, and it's unfortunate but undeniable applications. Genetic research is a discipline that has paralleled a desire to make certain human potentialities commonplace and to slowly cast off the shackles of dependence, difference, and disability which, on this narrative, are slowing down the progress of

humanity. It has manifested concretely in a desire to uphold racial, ethnic, and ableistic prejudices.

Etymologically, eugenics denotes "good genes." The word commonly refers to a range of reproductive or preventative practices. According to Levine and Bashford, eugenics has sometimes been applied to the task of preventing or destroying life (abortion and contraception), making "better" or more adaptive life (environmental and public health measures), and efforts to make more life (pronatalism and infertility treatments).[154] The term "eugenics" was solidified by Francis Galton, who proposed that it was a mechanism to extend and "replace natural selection by other processes that are more merciful and not less effective."[155] Apart from his cousin, Charles Darwin, whose investigations into animal variation was purely descriptive, Galton politicized eugenic practices. For Galton, eugenics was an intervention into the process of human reproduction by "social control that may improve or impair the racial qualities of future generations, either physically or mentally."[156]

In all forms, eugenics targeted "problem populations", regardless of racial or ethnic categories. This is not to deny that there were efforts to eradicate specific racial or ethnic groups, but that within populations, even largely white populations, the targets were the "degenerates," the "disabled", and the "weak minded." In early, progressive

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[154] See "Introduction" in Bashford, A., & Levine, P. (2010). *The Oxford handbook of the history of eugenics* (Oxford handbooks. New York: Oxford University Press.

[155] Galton, F. (1869). *Hereditary genius : An inquiry into its laws and consequences*. London: Macmillan.

[156] Paul, D., B., (1995) Controlling Human Heredity: 1865 to the Present (Atlantic Highlands: Humanities Press, 3–9.

America, for instance, European immigrants, African Americans, and poor rural whites were the greatest "problem" to be solved.[157] Among the most notorious examples of eugenic practice were 19th century sterilization and segregation policies.[158] Sterilization was considered to be more cost effective than segregation, in many cases, and by the 1930s it was permitted by legislations in the United States and in several European countries.

As Levine and Bashford notes, eugenics was always an interventionist project and represented a host of evaluative attitudes about how to classify human beings. Replacing the "the Great Chain of Being" which began with the lowest of the insects, peaking at the existence of rational animals (humans), and proceeding to the angels, and culminating in the personhood of God, the new eugenic attitude was to create a new, secular hierarchy that could evaluate human characteristics and qualities. This was exemplified by the invention and usage of intelligence testing, cataloged by the United States Eugenics Record Office.

As mentioned, eugenics took shape in the 1880s, was legitimized by law through the 1930s, until it received immense scientific and political criticism following the Second World War. Early on, eugenicists drew inspiration and authority from classical traditions that allowed the withdrawal of aid to weak or mentally unfit humans. However, unlike the cruel practices advocated for in those traditions, those like Galton suggested that eugenics was practical and humane. This notion, along with the advance

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[157] See Wendy Kline's "Eugenics in the United States" in *The Oxford Handbook of the History of Eugenics*.

[158] Block P. (2007). "Institutional Utopias, Eugenics, and Intellectual Disability in Brazil," History and Anthropology 18, no. 2: 177–196.

of governmental policies and intervention over society, helped to expand and popularize the practice of eugenics. Population control became a task of the state and eugenics provided an avenue. Perhaps more surprising is that, according to some historical studies, eugenic practices and policies were more likely to appear in liberal or progressive political states.[159]

Bashford notes that contemporary political and bioethical conversations around genetics, reprogenetics, and eugenics often assume a break in the history.[160] Eugenics is seen as the morally reprehensible vision of a bygone generation, and a weaponized methodology employed the 20th century totalitarian regimes. Yet, the history of eugenic practices, even within the anglophone world, shows this to be a bad assumption. Eugenics did not disappear after Nuerumberg, though it did waver due to political and scientific criticisms. However, this resulted in much 'rebranding' of scientific organizations and the terminology used in clinical encounters. It is because of this tendency to see objectionable eugenics a thing of the past that has, in some respects, inhibited our capacity to have more nuanced discussions about it now. As Diane Paul puts it, "It is time to be more sophisticated in our accounts of eugenics, not just for the sake of fidelity to the historical record but of a more adequate public policy."[161]

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[159] Diane Paul, "Eugenics and the Left," Journal of the History of Ideas 45 (1984): 567–590; Kevles, In the Name of Eugenics; G.R. Searle, "Eugenics and Politics in Britain in the 1930s," Annals of Science 36 (1979): 159–169; Richard Cleminson, "A Century of Civilization under the Influence of Eugenics: Dr. Enrique Diego Madrazo, Socialism, and Scientific Progress," Dynamis 26 (2006): 221–251.

[160] See "Epilogue" in *Oxford History of Eugenics*.

[161] Paul, D. "On Drawing Lessons from the History of Eugenics," in Lori P. Knowles and Gregory E. Kaebnick, Reprogenetics: Law, Policy, and Ethical Issues, (Baltimore, MD: Johns Hopkins University Press, 2007).

In response to the declining popularity and wide condemnation of eugenic practices after the second world war, the term "new eugenics" and its variants ("eugenetics" and even "newgenics") began to surface. The term was coined by biologist Robert Sinsheimer in 1969, and marked a shift in attitude. More broadly, "new eugenics" also refers to a wave of criticisms by feminist and disability scholars, such as a Merryn Ekberg.[162] Despite its usage, "new eugenics" has been rejected by some as dismissive and dangerous. In *Eugenics: the Future of Human Life in the 21st Century*, David Galton warns, "Call it what you will, but if your aim is to use scientific methods to make the best of the inherited component for the health and wellbeing of the children of the next generation, it is by definition eugenics. Sweeping the word under the carpet or sanitizing it with another name merely conceals the appalling abuses that have occurred in the past and may well lull people into a false sense of security."[163] Popularizing a new term to avoid the reputation of the past merely hides history, rather than correcting for it.

Most recently, Garland-Thomson has drawn our attention to the development of Crispr technology and its entanglement with eugenic logic.[164] According to her, genetic technologies are embedded in a history of science that has embraced 'health' as not only a descriptive term applied to bodies, but as an *ideal* that has been used to classify

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[162] In "The Old Eugenics and the New Genetics Compared," Social History of Medicine 20, no. 3 (2007), Ekberg states that, "The old eugenics was genetics and the new genetics is eugenics."

[163] Galton, D. Eugenics: The Future of Human Life in the Twenty-First Century (London: Abacus, 2002), xiii.

[164] Garland-Thomson, R. (2020). How We Got to CRISPR: The Dilemma of Being Human. *Perspectives in Biology and Medicine*, *63*(1), 28–43.

humans. The dedication to the rhetoric and philosophical assumptions of 'health' give way to a biological conception of 'normality' that tactfully dissolves the identity of those who are disabled, aged, and diseased; making them something that needs to be pitied and fixed. As she puts it, "by identifying human variations that counted as disease through diagnosis, treatment, and prognosis, eugenic medicine guaranteed evolution, not devolution, of the body politic through the achievement of sameness and the containment of human diversity."[165] Eugenic medicine is a method of control for a dominant culture influenced by a normative concept of health and functionality.

Crispr is the latest generation of what Garland-Thomson urges is a 'velvet eugenics'; an individualistic, marketkitized science that ashues disability justice for the sake of satisfying the 'rights' and preferences of society. It denies the identity and diversity of those that do not, or cannot, conform to those perceived aspects of normality. It operates within a framework of inordinate technological optimism and ignores the sorted history that demonstrates times and again that eugenics, old and new, threaten the lives and dignity of any who resist the categories of 'best'.

In addition to these discriminatory and exclusionary consequences, the aspirations of Crispr move us away from the time honored commitment to *techno-moral humility*, to borrow a virtue from Vallor and Garland-Thomson. It shapes our ambitions in a way that avoids the undeniable fallibility of our knowledge and fragile condition. Ambition drives us towards overly optimistic visions of human excellence;

[165] *How We Got To Crispr*, 31.

humility drives us towards the "human technologies (that) honor the widest range of human variation."[166] As Garland-Thomson eloquently puts it:

> Within a humane technologies framework, liberty can be understood as the freedom to grow from our distinctive individuality, not according to conceptions of health, normalcy, advantage, preferences, or future concepts of life quality imposed through parental will or medical authority and justified as the best interests of the child. Human accommodate rather than eliminate human diversity.[167]

What these virtues should encourage is a thorough rethinking of how we implement technologies which are inextricably bound to violent histories, and to resist revisionist, narrow minded pleads that, "We will not make those mistakes," and, "Those were the actions of but a few evil men." Current practices cannot be so easily displaced from their histories, and prejudices are alive, even if less obvious, in the ambitions for genetic enhancement and potential *post*-human era. What civic integrity demands, in the face of historical records of genetic innovation, is that we must never jettison talk of 'eugenics' no matter how we might fancy ourselves as 'morally progressive'. The conversations we have about the future of genetic technology must include a constant reminder of the past. Anything less is deluded, naïve, and prospectively harmful.

Conclusion

In her work on emerging technologies, tech-ethicist Shannon Vallor notes the way innovation both solves certain problems while also destabilizing various aspects of life. Far from a nostalgic and unrealistic plea for a return to simple times, she argues

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[166] *How We Got to Crispr*, 40.

[167] Ibid.

instead that we need to draw from the wisdom of past generations, even ancient philosophical sources, to understand how to engage more positively with modern technology.[168] The virtues that characterized the ethical and spiritual thought of both eastern and western traditions for over a millennia produce possibilities for reclaiming our control over technology that seems to overwhelm and dictate so much of our lives. Moreover, habits of mind and character are not merely designed to grant individual mastery over artifacts, but are the result of intimate social relationships which foster critical reflection about how we are to engage with the world. In a time of rapid innovation, where ethical concerns often fail to impress, persuade, and motivate, we need to cultivate those "technomoral" virtues and demand that our leaders do so as well.

In the previous sections, I have drawn from three different virtues and explained how they are relevant to our conversations around genetic technology. The first was practical reason, which, in my estimation, has a dual function. First, to assist us in imagining a future in which these technologies become a part of medical and commercial practice, to better think through the way these technologies will negatively (and positively) impact our ability to achieve genuine human goods. Second, to avoid over-simplifying the impact of technology by protecting consumer rights and liberties and protecting overly restrictive accounts of human nature.2 The technological potential of Crispr, much like stem cells before it, has been hyped as a mechanism for solving human ills. But we must not be fooled into thinking that human progress is ever simple or the product of mere creativity and innovation. There must always be persons of conscience and persons of wisdom to engage the wider implications of a technology.

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[168] Vallor, S. (2016). *Technology and the virtues : A philosophical guide to a future worth wanting*. New York, NY: Oxford University Press.

Without them, science runs afoul on good intentions (often aided by political ideology). Informed persons with sound practical reasoning can facilitate the development and usage of technology and encourage others to regulate in similar fashion.

The second virtue was care, which is achieved in and through relations of mutual dependence. It helps us remember that technology like Crispr reframes human relationships. We already see this in the history of in vitro fertilization (IVF), as the traditional understandings of family and parenthood have been significantly upended. Those biologically unable to have children can now do so, with various degrees of success, and "non-traditional" couples can now have and raise children. This was a hard fought and significant series of events, but not one without wider consequences. Cultural wars over who should and should not have children, over who should and should not be parents, will continue to dominate our social and political agendas. This is no less true with advances from Crispr, though the results will be even more controversial. IVF, along with prenatal diagnosis, have already given us a (imperfect) window into the future of our children and allowed us to make decisions on their behalf. Crispr promises much more, by allowing us to not only select a genetically "superior", "healthy" embryo, but to create one. In light of such a shift in our knowledge and ability, we must be mindful of our mutual vulnerability and interdependence. We are a community of individuals with intricate linguistic, cultural, and religious ties which cannot be sustained without transparent dialogue about what best characterizes the conditions of human life. Seeing Crispr as a genetic fashion designer, a triumph of free market genetics, undervalues and distorts the degree to which our offspring are already unique creations of our own. It represents another step in the commoditization of human life. The virtues and relations of care and mutual support remind us of the

inevitability of need, loss, limitation, as well as the wonders of human love and affection.

The third virtue was a composition of historical accountability and civic integrity. The role of this virtue is to be mindful of the past and the narratives that have shaped conversations about present social and political issues. The wonders and potential of Crispr technology require a look over our shoulder. A glance at our failures, the lapses in conscience and awareness reveal that the past is often painful, riddled with avoidable mistakes, and at its worst, characteristic by the sadistic aspirations of racism, classism, misogyny, and xenophobia. Though the "better angels of our nature" - to use Lincoln's fabled phrase - may come apologetically forward in moments of humility, the history of domination and destruction seen over the last quarter millennia reveals that as a species we are not mature enough to put all past wrongs aside and start anew. Therefore, the development and application of such significant technology cannot but take a lesson from the past, from a history of eugenic design and hierarchical purposes. We, as a society, must cultivate the virtues of civic integrity, demand accountability and transparency from those who make decisions about the future of Crispr technology, and hold ourselves collectively to higher moral standards.

In the opening of this essay, I mentioned that there are connections between these virtues. This suggestion is typically followed by an extensive discussion about the 'unity of the virtues', as was discussed by many ancient writers on virtue; the proposal being that the possession of any individual virtue entailed a possession of them all. I will resist this particular trend, as I do not think that there is any logical or conceptual necessity that connects these three virtues. Nevertheless, there are some practical

connections that are worth noting. For example, any discussion of proper care and caring attitudes must be guided by attention particular details and contextual features; care requires practical wisdom. We cannot manage our care for others without attending to the particular details that constitute and define that relationship. Similarly, we cannot hope to remain attentive to the details of our past and hope to sensitively avoid the mistakes without cultivating care for those who both have been negatively, and sometimes fatally, affected by the atrocious usages of eugenic practice; civic integrity, requires care and practical wisdom.

The virtues of practical reasoning, care, and accountability are bound up with the advances and problems associated with genetic technology. We cannot reasonably hope to arrive at a better future when not guided by practical reasoning, by a forward thinking, imaginative rehearsal of possibilities and their consequences. Nor can we be responsive and realistic about the benefits of genetic technology when we do not attend to the reality of dependence, relationship, and the often underappreciated aspects of being social, emotional animals, as opposed to merely rational actors. Finally, we cannot strive for a more just and transparent community if our current innovations are not informed by the atrocities and malicious ambitions of our technological forefathers; we cannot pretend that our worst impulses and culturally sustained biases are behind us. What we must do is practically immerse ourselves in these technologically advanced and radically uncertain times with an eye towards maintaining the virtues. In so doing, we can envision a future that is worthy of humanity.

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