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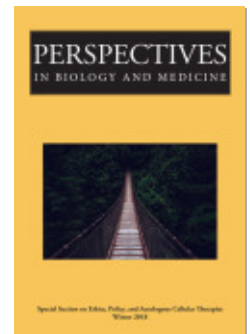
Virtue, Vice, and "Voracious" Science: *How should we approach the ethics of primate research?*

Rebecca L. Walker

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Review Essay

VIRTUE, VICE, AND “VORACIOUS” SCIENCE

*how should we approach the
ethics of primate research?*

REBECCA L. WALKER

ABSTRACT Philosophical approaches to animal research have typically asked whether nonhuman animals have rights that would prohibit such research or whether the benefit of such research on the whole balances out the harms to animals. The professional ethics approach instead promotes compliance with regulatory norms that aim to support science progress. In *Voracious Science and Vulnerable Animals: A Primate Scientist's Ethical Journey* (2016), John Gluck struggles with issues that relate to each of these ethical frameworks, but the notion of an ethical “journey” also raises questions of character that are underdeveloped in animal research ethics. This essay considers how virtue ethics may allow us to revisit the ethical significance of the research of one of Gluck’s mentors, Harry F. Harlow. Harlow’s torturous, but highly influential, experiments with infant macaques made him one of the most controversial figures in animal research in the second half of the 20th century. A virtue ethical approach to his case poses a unique set of questions, including: Was Harlow compassionate or cruel? Why are human-animal bonds important in ethical primate research? And what is a good life for a research monkey?

FROM THE LATE 1950S THROUGH THE EARLY 1970s, Harry F. Harlow’s primate laboratory at the University of Wisconsin–Madison undertook a series

Department of Social Medicine, University of North Carolina at Chapel Hill, 333 S. Columbia Street, MacNider Hall, Room 348, CB #7240, Chapel Hill, NC 27599-7240.

Email: rlwalker@med.unc.edu.

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of studies on infant rhesus macaque monkeys that gained the attention of both animal welfare advocates and the scientific community.¹ Establishing one of the first primate research laboratories in 1932, Harlow began his career as a primate researcher by studying primate learning capabilities and shredding previous assumptions within psychology that primates were restricted to the conditioned learning of a rat. As his need for subjects in particular age ranges and easily susceptible to study grew in the 1950s, he again broke research ground by establishing a captive breeding colony of human-raised macaques. The subsequent tests on these “maternally deprived” primate infants, which compared rearing on wire and cloth inanimate “mothers,” made Harlow famous by upending prevailing psychological and popular theories about the negative effects of physical contact for human babies and young children. According to psychologist Lauren Slater (2004), “Orphanages, social service agencies, the birthing industry all had critical policies altered based in part on Harlow’s findings. . . . Thanks to Harlow and his colleagues in the study of attachment, we have been humanized—we possess an entire science of touch, and some of this came from cruelty” (147).

As Harlow’s studies turned to abnormal psychology and the potential for rehabilitation, some of his most disturbing experiments took place. Studies placing newborn monkeys in “total isolation” chambers, cut off from social and perceptual interaction with the world for months at a time, fuelled Harlow’s infamy among animal advocates. Depending on how long they were kept in isolation, monkeys emerged with symptoms ranging from self-clutching and rocking to long-term social and emotional “obliteration” (Harlow, Dodsworth, and Harlow 1965). Later, a steel vertical isolation chamber that Harlow himself labeled a “pit of despair” was used to break down already socialized monkeys (some as old as three years of age) in an effective effort to mimic severe human depression (Blum 2011, 219; McKinney, Suomi, and Harlow 1972). While rehabilitative efforts proposed by one of Harlow’s students eventually led to improvement in some of the socially and psychologically devastated monkeys, many of the macaques subjected to these research protocols had lasting severe effects. These included radically deficient social behavior, stereotyped behaviors, self-injury (in one case death from starvation), cognitive deficiency, and later the inability to normally mate or adequately parent (Blum 1994, 2002; Gluck 2016).

Harlow’s studies, along with other events and research programs in the middle to later part of the 20th century, created the backdrop for both regulatory reform and current controversies over biomedical and behavioral research using animal subjects. Particularly catching the public eye were problematic practices in the sale of dogs to research institutions, told most vividly in the story of Pepper, who

¹In this short account of Harlow’s work, I follow Deborah Blum’s (2011) biography and a reflection published shortly after Harlow’s death by a former student, Stephen Suomi, and Harlow’s executive assistant, Helen Leroy (1982).

was stolen from her owners and later killed in an experiment (Engber 2009), and in the *Life Magazine* exposé “Concentration Camp for Dogs” (Wayman 1966), which revealed the horrific housing conditions of dogs kept for sale to researchers. These events prompted the initial passage of the Animal Welfare Act in 1966. In the early 1980s, news of the University of Pennsylvania primate head trauma studies and the laboratory conditions and treatment of primates at the Institute for Biological Research in Silver Spring, MD, prompted significant revisions of the Animal Welfare Act in 1985, including requirements for Animal Care and Use Committees, exercise for dogs, and promotion of the psychological welfare of primates (Food Security Act of 1985, PL 99–198, sec. 1751–1758).

In 1966, when respected anesthesiologist Henry Beecher publicly criticized 22 unethical human subject studies—shockingly unremarkable in the practice of medicine at the time—he did not call for a regulatory overhaul. Rather, he asked for greater responsibility on the part of the researchers and highlighted structural factors that led to unethical practices. In effect, he appealed to improved researcher character, calling the “presence of an intelligent, informed, conscientious, compassionate, responsible investigator” the most “reliable safeguard” in protecting human subjects (1360).² Instead, he got major protective regulatory overhaul. I do not think that is a bad thing. In both human and animal subject research, oversight is critical for setting standards that must be met by researchers who themselves may or may not strive for virtue.

Yet while regulations and professional standards call for, and enforce, compliance, they do little to address the issues of character and relationship that arise in these contexts. Examples of these issues in animal research include how to address morally salient emotions (for example, that arise in animal “sacrifice”); how to parse requirements of science and animal relationships (for example, in a protocol calling for invasive research on an animal that has become more of a pet); how to further the flourishing and not simply pain-free life of a laboratory animal (for example, of a nursery-raised rhesus macaque); and how to sort out the researcher with practical wisdom from the successful but ethically compromised investigator (as perhaps we might understand Harry Harlow). Further, institutional regulatory structures cannot critically question the ethical *suppositions* of the very practices that they oversee: the supposition, for example, that animal and human subject research should be guided by totally different ethical standards and guidelines (Walker 2006).

Philosophical perspectives reflect more critically on animal research practices, yet have been primarily concerned with justificatory questions regarding whether and when such research is ethically permitted, rather than the particular circum-

²Grady and Fauci (2016) use Beecher’s perspective in this statement as the impetus for a discussion of investigator virtue in human subject research.

stances and practices of that research. Rights-based perspectives have traditionally argued either for an abolition of harmful animal research by granting rights to animals, or for a widely permissive view by denying that animals have rights. (For an abolitionist view, see Regan 1983; for a permissive view, see Cohen 1986.) Utilitarian approaches to animal welfare balance (primarily) human benefit against the equal consideration of nonhuman animal pain and suffering in determining whether a study may be justified.³ While such an approach is not abolitionist, its most well-known proponent, Peter Singer (1975), has had a generally pessimistic view of animal research. From his point of view, a true equal consideration of interests would mean “the end of the vast industry of animal experimentation. . . . Around the world, cages would be empty and laboratories would close down” (87).

Virtue ethics, an alternative to both rights-based and utilitarian philosophical perspectives, places character center-stage in determining appropriate action, attends closely to the formation of good and bad habits, and draws inspiration from models of human lives well lived. Like other philosophical ethical frameworks, virtue ethics is really an umbrella term covering a wide diversity of particular theoretical views from the Confucians to the stoics to Aristotle to Aquinas to Hume (naming only a few). According to Aristotle’s view as expressed in his *Nicomachean Ethics* (which I roughly follow in this essay), the virtues are those settled dispositions to act and feel according to reason that are necessary for human flourishing (or *eudaimonia*). The particular virtues are specified within domains of significant human activity. Courage, for example, is a disposition to respond to certain types of danger in a mean between the excess of rashness and the deficiency of cowardice. The mean, moreover, is not a mathematical mean, but determined relative to general human as well as individual tendencies. For example, human beings generally tend toward fearful responses to danger, and so the mean of courage is closer to rashness. Any individual, however, may tend toward the vice of rashness and so must correct her aim accordingly. And while a general account of the virtues can specify the relevant domains of human activity, as well as human tendencies in those domains, it cannot specify in advance the actions called for in each particular circumstance or in light of each personal tendency. Such determinations are best made by the practically wise person, who is able to accurately perceive both the moral contours of each situation and what action is called for.

Virtue ethics’ return to the stage of contemporary ethics is frequently associated with the 1958 publication of Elizabeth Anscombe’s “Modern Moral Philosophy,” in which she contrasts Aristotelian ethics with what she sees as the

³It is important to distinguish this utilitarian approach to general welfare from the “welfare” approach taken within animal research, which promotes animal welfare to the extent compatible with science goals.

foibles of modern moral theory, which seeks answers to moral questions without an adequate psychology, clings problematically to ideas of duty and obligation, and seeks to circumscribe the realm of the “moral.” Anscombe’s essay precedes Singer’s utilitarian approach to animal ethics by nearly two decades, and Tom Regan’s rights-based approach by a solid generation, yet virtue ethics has played only a minor role in animal ethics more broadly, let alone with respect to animal research.⁴ Might virtue ethics be able to provide a broader moral framework that can critically engage the ethical issues internal to the practice of animal research? In this essay I use virtue ethical concepts to illuminate important ethical features of Harlow’s case, but also to illustrate the kinds of theoretical questions that may become important in such an analysis. My concerns in particular will be with the normative role of character traits, the significance of relationships in promoting moral emotions and understanding of animals, and the question of what it means for research animals to flourish.

HARLOW: COMPASSIONATE OR CRUEL?

In John Gluck’s (2016) revealing and sensitive portrayal of his own ethical journey as a primate researcher and now animal advocate/bioethicist, he discusses his experiences as part of Harlow’s lab. Evident in his discussion is both how foreign ethical consideration of animal suffering was to researchers at the time, and how dominant consideration of the “needs of science” was in determining how animals ought to be treated. Gluck writes of his experiences, “Everything around me in the Wisconsin environment confirmed that I was engaged in an enterprise of unassailable importance that required ignoring evidence that the lab animals suffered needlessly as a result” (66). Yet perhaps more striking to anyone familiar with the infamous nature of Harlow’s research will be Gluck’s deep appreciation for Harlow as a teacher and mentor. As Gluck writes, “The Harlow lab was an absolute oasis from the [caustic] environment of the Psychology Department. The expectations for self-direction and scientific maturation were obvious. . . . In his role as lab director [Harlow] was, in my view, beyond reproach” (92). As Gluck sees it, “Though Harlow was a leader and an innovator in so many areas of psychology, he was just a member of the crowd when it came to determining whether a particular experimental manipulation could be ethically justified” (93).

According to Gluck’s experience of primate science at the time, then, Harlow was far from unique in the kinds of suffering he imposed on primates for experimental purposes. Indeed, from Gluck’s highly disturbing description of the quality of basic care monkeys (and other animals) received at his next academic home at the University of New Mexico at Albuquerque, Harlow’s primate lab

⁴To my knowledge, only Merriam (2012) and Hursthouse (2006) have written directly on virtue ethics and animal research.

seems a model of good animal care practices (experimental interventions aside). Gluck’s insight is that it was Harlow’s effort to overcome the limitations of necessarily small sample sizes through photographic illustration of the science that contributed to both the memorable, and controversial, quality of his studies. In short, because of his use of images of adorable but highly distressed monkeys, Harlow’s studies had a big impact on people’s emotional as well as intellectual understanding of the science—and that impact contributed to his role as a controversial figure.

It might appear that the goal of a virtue ethical approach to Harlow’s research program would be to determine whether Harlow was himself a virtuous or vicious actor and then to draw out implications for the moral valence of his research based on those conclusions. Yet focusing primarily on Harlow’s own character may be counterproductive, given the apparent complexity of his personality and the competing and partial views that we have inherited regarding his character traits and habits. Further, there is a significant danger of such an approach devolving into unproductive and judgmental “moralistic” appraisal. Nevertheless, it is interesting that those who have considered the morality of Harlow’s work often also comment on, and frame, the content of his character. Whether it is Gluck’s need to redeem Harlow as a man with “a genuine sense of decency and compassion” (89) when it came to protecting his students, or the scores of commentators who have painted his experiments as “cruel,” the issue of what kind of researcher Harlow himself was seems important.

What is uncontroversial is that by any account Harlow was both a flawed and a complex character. He threw himself into his work to the detriment of his first marriage and relationships with his children, and he consumed alcohol to excess even in comparison with the liberal standards at the time (Blum 2011; Slater 2004). He also suffered from periodic episodes of severe depression. While some of Harlow’s female students and colleagues found him supportive and intellectually demanding, not falling prey to the sexist assumptions about women in science at the time, others said he “hated women” (Slater 2004, 134). He also used rhetoric in his writings and speeches that many found offensive to women (Blum 2011). Indeed, his communication style in his scientific writing and speeches generally was seen as problematically blunt, and not conforming to science norms of objective description. To the dismay of his psychology colleagues, he insisted that he was studying the science of “love” not attachment (see, for example, Harlow 1958), and, alarmingly, he used the term “rape rack” instead of “restraint device” for a device for inseminating female monkeys who had become unable to mate due to their severe psychological trauma from prior isolation (Blum 1994, 97).

By attending to Harlow’s intemperate use of alcohol and his lack of personal flourishing due to his battles with depression, we can see starkly how a broader Aristotelian virtue ethics would be concerned with matters not necessarily on

the radar for a rights-based or utilitarian analysis. In so far as these qualities are both quite personal and are sources of social stigma, a virtue ethical approach that dwelled in problematic ways on an individual's intemperance or sources of suffering beyond their control could go badly off the rails. At the same time, there is good reason to think that these personal factors did significantly influence Harlow's choice of research program. The design of especially deviant devices, such as the "pit of despair," apparently was implemented soon after Harlow returned to work after a bout with especially severe depression. The devices were modeled to induce experiences in monkeys similar to Harlow's own terrible suffering (Blum 2011; Gluck 2016). It is thus important that a virtue ethical analysis be able to address these personal factors, but with proper sensitivity.

But could a person be compassionate in some respects, and also callous or even cruel? This question is important for Harlow in part because of a seeming incongruity between his compassionate treatment of at least some of his students and his apparently cruel treatment of some of his experimental subjects. Because a virtue is a reliable tendency to respond appropriately in relevant social and environmental contexts, it follows that a virtue that is only selectively applied is not a virtue at all. But does that mean that we must also apply the virtues across species? It depends. Part of enacting the virtue is to accurately perceive when the relevant actions, feelings, and motives are appropriate. It is harder to think of a role for some virtues in the direct treatment of animals than others. It is not obvious what it would mean for a researcher to be honest with her guinea pig subjects for example. But there is additional significance to this question for virtue ethics. Specifically, it is intuitively plausible that Harlow's experimental interventions were cruel regardless of whether Harlow himself was a cruel person (even if he was also not fully compassionate). Can a virtue ethical analysis reflect this situation?

The reasons for thinking that Harlow's experimental interventions with infant macaques were cruel are obvious. The interventions, in particular those involving total isolation for long periods, were both traumatizing for the infant macaques at the time and devastating to their longer-term social and emotional development and welfare. But if the experiments were cruel, it doesn't necessarily follow that Harlow himself was cruel. After all, much more was at play in making these experiments possible than merely Harlow's character. Such factors included a broader social perception that animal welfare lacked significance, lack of regulatory oversight over animal studies, science's perception at the time that animal psychologies lacked any real ability to suffer, and institutional forces pushing toward investigator innovation and success even at a high cost in animal welfare.

But why might we think that Harlow was not necessarily cruel? I think there are two main reasons for holding this. First, it seems plausible that it was a deficiency other than cruelty that allowed Harlow to follow through on these experiments. One likely possibility is intellectual hubris that blinded him to the moral significance of his work. Harlow, it seems, never adequately searched his soul

regarding the importance of his science goals at the cost of the animal suffering they exacted.⁵ Others have thought that Harlow’s personal psychological suffering threw him into a kind of feedback loop with torturous experimental designs (Blum 1994). Second, Harlow’s lab was known not only for these problematic experiments, but also for helping to set and enhance standards of primate husbandry in science at the time. Of course, those standards failed to promote the natural instincts and welfare of primates in all the ways that single captive housing without much enrichment necessarily does. Still, Harlow’s lab worked hard on animal care and did not neglect the animals as you might expect of someone who was truly cruel.

Part of what is at issue here is the meaning of the word *cruel*. Does cruelty necessitate only an intentional harm and a lack of care about such harm? Is it necessary that the harm is not offset by a reasonable goal? Certainly cruelty cannot require a sadistic interpretation, whereby the harm is inflicted for its own sake. But if cruelty otherwise requires the harm is done for no, or only trivial, reasons, then it seems clear Harlow’s intentional harming of the primates (not done for its own sake) and seeming lack of care about the harm, was not cruel as long as it was done for some non-trivial purpose. On the other hand, if we accept that an action may be cruel simply if it unjustifiably inflicts pain, then whether Harlow’s actions were cruel depends on whether his purpose was “justified.” As I see the issue, however, what may be more important is whether we can make a distinction between a cruel *practice* and a cruel *character* in a way that is still comfortable for virtue ethics. There is, according to multiple dictionary definitions of *cruel*, such a distinction following roughly the difference between the willful and uncaring infliction of harm (the cruel character) and the mere infliction of severe harm without a basis in reason (the cruel situation, practice, or context). Of course, in this way of understanding the term, even winters or cliffs can be cruel, so it is important that the practice that is being evaluated for cruelty is one that moral actors have put into place.

Based on this distinction, Harlow’s experiments can be deemed cruel because of the type and extent of harm they inflicted without appropriate offsetting reasons for this harm, even if Harlow himself was not a cruel person. It is important to this analysis that *cruel* as an ethical evaluative term is not simply a utilitarian balancing of pain or suffering on the one hand and welfare benefits on the other. A virtue ethical analysis is open to all the additional nuance that the term *cruel* brings to bear in the normative claim that it is wrong to do what is cruel to do (whether or not one is oneself cruel). The claim that the experiments were cruel reflects

⁵Primate researcher Jonathan Allen is quoted as having said, “You should have to search your soul as to the balance between the research and the good that comes from it and the bad part, which is what happens to the [primates]. It’s a difficult place to be. If you’re comfortable with it and you don’t have any problem with it, *that’s* a problem” (Cohen 2007).

not only primate suffering during the experiments, but the inability for the individual animals to recover socially and emotionally, the researcher's turning a blind eye to monkey suffering, the perverse use of the monkey's capacities for social bonding as a mechanism for harm, and the purposive and knowing infliction of interventions causing suffering. The appeal to cruel *practices* and not merely characters also heeds the fact that larger social forces—insensitivity to the welfare of animals, an overblown value of the scientific interventions, lack of regulatory guidance, and so on—was at play in setting the stage for these experiments.

A virtue ethical analysis of Harlow's contradictory tendencies with respect to compassion and cruelty helps explain why we cannot call him a compassionate man, but also why we might not want to call him cruel, even if that is how we label his experiments. Such an investigation, moreover, can bring to light ethical nuances highlighted by the term *cruel* that are beyond considerations usually brought to bear in balancing benefits and harms of animal research. Integrating issues of broader well-being and self-regarding vices also brings attention to some of the factors pushing Harlow in the direction of more ethically problematic studies, though these must be addressed in a manner that does not rely on problematic types of moral blame.

COMPASSIONATE CARE AND HUMAN ANIMAL BONDS

Bonds between humans and animals in the research setting have an important role to play in fostering appropriate moral emotions of care and compassion toward animal subjects in researchers, trainees, and caretakers. Because exercise of the virtues requires both adequate supportive moral emotions and intellectual features such as understanding and perception, it is important to address the virtue ethical implications of human-animal bonds (HABs) in animal research. While there is no single accepted definition of an HAB, this type of relationship does not require the stringent standards of Aristotle's virtuous relationship of *philia* (friendship), the highest form of which requires that both parties be virtuous and spend a great deal of time together. Since we will not want to posit that animals must be capable of virtue to enter into HABs, the virtue of friendship is too high a standard for such a relationship. Lilly-Marlene Russow (2002) helpfully distills three core features of an HAB: (1) the relationship must be between a human and individual animal(s) rather than a collective (such as a colony or hive); (2) the relationship is reciprocal in some sense, and persistent over time; and (3) the relationship tends to improve well-being for both parties.

Let us first consider some theoretical benefits and risks of HABs in a research setting, and then turn to an example from Gluck's experience. At an intellectual level, HABs create a space for a closer attention to the details of how an individual animal's welfare needs are best met. As the human spends more time with the animal and heeds what things make the animal's life better or worse, a

more complete understanding of the animal's interests will come into view. In a person capable of virtue, HABs are also likely to increase appropriate feelings of compassion and care that support actions in keeping with the animal's welfare. In an ideal situation, such increased intellectual appreciation for the welfare requirements for individual animals, along with feelings of appropriate care and compassion, would generalize to a better understanding of, and impetus to act in favor of, the welfare of the group of similarly situated animals. Ideally, researchers who form HABs will not only be more thoughtful and proactive in instituting general welfare measures for animal care-taking, but they will also attend closely to refinement measures in using the least harmful and invasive methods for justified research goals. For the animal involved, bonding with individual humans who are frequently present in the research environment can lead to a less stressful environment and less forcible compliance with research requirements. For some types of animals (domesticated dogs and cats for example), HABs may also be a necessary source of welfare.

Of course, there are also ethical risks to promoting HABs in the context of animal research. If we agree with Russow's list of requirements, only some types of animals can enter into such bonds. Thus it would be problematic to claim that HABs are a prerequisite to appropriate care of animals incapable of such bonds. What is needed in those contexts instead is a general benevolence toward the animals and an appropriate attention to the duties of care. At the other extreme, it may be objected that HABs have untenable risks both in potential neglect of those animals in the research cohort who are not part of the bond, and for the researcher, who may suffer when an animal with whom they have bonded is harmed or killed as part of the research process. These are serious risks, though the first is not inherent in HABs since researchers who form HABs with some animals in a cohort would ideally also better provide for the welfare of the entire cohort. The second risk is inherent in HABs in the context of harmful animal research, however it is not clear that is an argument against forming such bonds. HABs may still be fruitful for both humans and animals, even if there is also suffering involved for the human investigators; alternatively, such bonds may be the impetus for investigators to rethink their research strategies and strive to implement less harmful protocols.

Where HABs do occur, they set up interesting questions about justice and care. For example, is justice as a virtue compatible with “special treatment” of individual animals with whom a researcher has bonded? Raja Halwani (2003) has argued that care ethics should be subsumed under virtue ethics because, in addition to offering compatible ethical perspectives in terms of context responsiveness, engagement with moral emotion, and ability to account for moral partiality, care ethics has been criticized as unable to address issues of justice and responsiveness to reason that virtue ethics is well positioned to handle. I leave aside the contentious question of whether care ethics should be “subsumed”

by virtue ethics, but note the importance of the fact that virtue ethics, unlike rights-based theories or utilitarianism, is friendly to moral partiality as congruent with the virtue of justice. In other words, “yes” justice is compatible with special treatment. However, unlike care ethics, the requirements of the virtue of justice regulate what is appropriate partiality. Unfettered care, in other words, may be inappropriate in the just person.

It will be helpful to illustrate the notion of an HAB, and the relevant issues for virtue ethics, with an example from Gluck’s rich experiences with animal research. When Gluck moved from the Wisconsin Primate Laboratory to a new position at the University of New Mexico, he requested several monkeys from Wisconsin as a “start up” for his new research position. Among these were two stump-tail macaques. Gluck (2016) makes a point of noting in the introduction to his book that stump-tails as a species are much less aggressive and easier for humans to handle than the more commonly used (today) rhesus macaques—which he says “instill fear [in me] to this day” (viii). He writes that before departing, “I made a special point to visit the two stump-tailed monkeys, Manny and Greta, that I wanted to come with me to New Mexico. They were really my pets, and I feared that another researcher would snag them before I was able to get them there” (110). Remarking on his visit to the animal facility before his departure he writes, “As I walked through, all the monkeys were either asleep or quietly awake. I enjoyed seeing them all peaceful . . . not responding to a human’s presence with fear grimaces, threats, door-slamming, and screeches” (110). When the monkeys he had requested from the Wisconsin lab arrived in New Mexico, Gluck writes that he “recognized each one as I went from cage to cage. The unexpected monkeys were the two stump-tails, Manny and Greta. To me they all looked like old friends, but I was particularly happy to see the stumps. I guessed that they were sent ahead of time because there was a threat of their being used in an invasive experiment. When I called the Primate Lab later that day, I found that this was indeed the case” (120).

In this example, Gluck’s naming of his “pet” monkeys underscores the extent to which a bond was involved—but more importantly for our purposes, it calls attention to a behavior that was contrary to science practices at the time (and, for the most part, today). Even when animals are named in a laboratory setting, they are almost never named when reporting study results in the science literature (Engber 2009). The practice of not naming research animals, and of not identifying them as individuals in science publications, is sometimes a necessity, given the numbers of animals in an individual project—with rodents potentially in the tens of thousands. But when there are small numbers of animals involved (as was the case with Harlow’s experiments), animals still are not named. Naming promotes the animals as subjects in their own right, and not mere objects of science. As subjects, they are more likely to be conceptualized to have their own individualized, rather than standardized, outputs and welfare. An HAB that is

expressed through naming an animal may also appear to jeopardize the researcher’s scientific objectivity regarding the data points the animal produces. Further, publishing animal names in science writing (when they do occur in a laboratory setting) may be perceived as bringing focus to the animals themselves and thus to research methods involving animal harm.⁶

Another important issue in this case is the impact of special treatment of the bonded animals on the other experimental animals. While Gluck was a graduate student, he interacted with and had care-taking responsibilities for many different primates. In this regard it is interesting to note that the other monkeys regarded him calmly as he came through their housing unit on the day he left, as well as his comment that when the “start up” monkeys arrived in New Mexico they *all* looked like old friends. While we cannot conclude that it was due to the HAB he had with two of the monkeys that other monkeys appeared to trust him, we can conclude that forming such bonds did not appear to undermine his abilities to care for the other primates.

At the same time, it is not clear whether Gluck’s “rescuing” the two stump tails from the Wisconsin Primate Lab could have had negative effects on other primates left behind. In particular, was the invasive research that the stump-tails were slotted for carried out using other animals, thus causing them to be harmed in place of Gluck’s “pets”? The question for virtue ethics in such a circumstance is what the just person would do. On the one hand, it may seem Gluck had an obligation to consider the welfare of those other monkeys equally to the stump-tails, even though he had no part in planning the invasive research. On the other hand, he had stronger personal obligation to protect the welfare of Manny and Greta, especially given a lack of control over future experiments that might take place at the Wisconsin Lab. A definitive answer to what the virtuous person would do is too much to ask for in this essay. What is important for our purposes is that the virtue of justice may—indeed must—attend to bonds and partialities as part of a nuanced application of the demands of justice.

Harlow was very hands on in his research, having the appearance to people like Gluck of sometimes not leaving the laboratory at all. At the same time, there is no indication from Gluck, or Harlow’s biographer Blum, that Harlow bonded with any of his monkey subjects. Indeed, he commented adamantly in a press interview in 1972 that he did not like monkeys (or any other animals) (Blum 1994). An interesting question then arises as to whether being hands on and attentive to the monkeys’ basic care needs is sufficient to promote humane research practices,

⁶Susan Lederer (1992) describes concerted efforts beginning in the early 1920s to placate critics of animal experimentation by neutralizing the portrayals of the animals themselves in science literature. Examples included switching out emotionally laden terms for more objective-sounding terms (such as replacing *starving* with *fasting*), omitting descriptions of animal vocal responses to pain, removing illustrations of whole animals (as opposed to the “affected” part), and replacing gendered pronouns with *it* (70–72).

or alternatively, whether having the ability to form HABs is also an important part of the picture.

The science culture at the time worked against the creation of HABs. Behaviorists strove to purge science of unverifiable attributions of animal “mental states” (such as fear, loneliness, or even suffering) and to offer instead “objective” description of stimulus and behavior responses.⁷ While Harlow was no behaviorist, it is clear that in Harlow’s lab, like in other labs, there was a view of monkey lives as serving the ends of science and not being otherwise valuable in their own right. Crucially, there was also a social and emotional distancing that must have taken place between the researchers and trainees and their monkey subjects when it came to carrying out harmful research protocols. Gluck (2016) details, for example, that when he first saw Harlow’s “pit of despair” experiment, he was shocked and yet felt “disconnected” (160).

Thus while habits of hands on research practices create a condition of possibility for HABs, there is a long way to go between appearing to sometimes sleep in the lab (as Harlow did) and bonding with the lab’s animal inhabitants. Arguably, however, forming such bonds can be an important contributor to developing both a deeper understanding of individual animal welfare and the morally salient emotions that promote supporting that welfare. These features are arguably critical to becoming a compassionate researcher. Individual tendencies as well as social structures and other environmental factors, may influence which way researchers go. While Harlow went one way, Gluck went the other.

ANIMAL FLOURISHING

According to eudaimonistic virtue ethics, virtuous activity is a constitutive part of a flourishing (or happy) human life. Indeed, the virtues “aim at” flourishing or happiness, though not instrumentally. (We can’t be honest *because* that will make us happy since, for one thing, such a motivation is not proper to honesty.) What it means to be happy in the sense of *eudaimon* moreover is a far cry from subjectively determined psychological contentedness; rather, it has to do with achieving a well-lived life for a human being, a life of courage, kindness, compassion, and the other virtues. Such a humanly good life is by definition not available to non-human animals, yet the notion of a life that is a good one for a *type* of creature is crucial to eudaimonism, and therefore critical to thinking about how virtue ethics applies to animal research contexts.

In his ruminations on what regulatory reform has and has not achieved for research animals, as well as in his consideration of what philosophical obsessions with “personhood” imply for the significance of animal well-being, Gluck draws

⁷This tendency is still part of science today in the resistance to terms like *fear* or *suffering* and use instead of terms like *distress* or *discomfort* to describe lab animal states.

attention to the importance of biological norms of welfare for research animals. At the regulatory level, he is concerned that the focus on categorizing (and, where congruent with the science goals, minimizing) levels of animal pain and distress in experimental interventions fails to paint an adequate picture of the harms of animal research that occur in other areas of the research enterprise, harms that include “laboratory-induced boredom, disruption of normal circadian rhythms, general anxiety, fear of handling, absence of typical food options, and social deprivation” (229). Gluck proposes instead that “The extent to which an animals’ species-typical behavioral characteristics are blocked or impaired needs to be included as part of the total quantity of estimated harm” (229). Regarding philosophical views of personhood, Gluck’s worry is that the focus on cognitive capacities in bestowing personhood (and thus moral status) does not account for what matters to the animals themselves. If we are distracted by a need to determine in the first place whether an animal is “due” moral consideration because of its cognitive abilities we may miss the more biologically determined ways in which they can, in any case, be harmed by us.

In the notion of kind-specific flourishing that is central to eudaimonistic virtue ethics, we garner theoretical support for these more general concerns that Gluck voices. (For a discussion of kind-specific animal flourishing and virtue ethics, see Hursthouse 1999.) Virtue ethics does not pay particular heed to issues of moral status or personhood—in fact, such notions are downright uncomfortable for virtue ethics, which focuses on the character of the actor, not the status of the “patient,” and offers no system of general moral principles to prescribe action. According to Hursthouse (2006), “Virtue ethics can dismiss the question of the moral status of animals without a qualm . . . in the context of the ethics of our treatment of animals it is simply useless. . . . Questions about right and wrong actions in relation to animals arise in a wide variety of contexts, far too many to be settled by a blanket assignment of status” (140). At the same time, the virtuous person must be adequately responsive to the particular needs and interests of those she engages. For example, the virtue of compassion takes as its relevant objects those capable of suffering, but it does not require that such beings are also capable of moral reciprocity. Further, the organizational virtue of practical wisdom requires responsiveness that takes context into account (the who, where, when, and how of compassion). The particular needs of the particular creatures matter. In other words, it is those biological needs and interests that Gluck outlines that should concern the compassionate person.

“Harms” in this eudaimonistic framework may be interferences with kind-specific functioning, even if these do not lead to specific experiential disutility. Gluck tells a heartbreaking story about his realization of the unrequited social communication efforts of a singly caged monkey in his research facility. He discovered her repeatedly “freezing” in her cage with her head at a tilt and then backing up and performing social gestures before returning again to her frozen position. When

Gluck looked closer, he realized that at that very angle and distance, she could just see other monkeys in other cages through a hole made by a missing bolt in the stainless-steel cage wall. This bolt-hole was her window onto the other monkeys in the facility. She was returning again and again to see how the other monkeys reacted to her social gestures. With the sudden realization of her earnest, but completely futile efforts, Gluck was “overwhelmed with the realization of the dreadful life she was leading and had been for years” (194). This despite, or because, of the fact that, as an “isolate” monkey she likely would not be able to sustain real social interaction. Thwarting a monkey’s social bonding needs, even if it has no impact on longevity, physical conditioning, or even overall contentment is a serious harm. The eudaimonistic framework can give credence to the idea that some kinds of life in a research facility may subject an animal to harm that does not show up in measures of their life span or medical health.

CONCLUSION

How should we understand flourishing for the primate scientists themselves? For a researcher to become virtuous, and thereby to flourish, it is not enough to have natural tendencies in line with virtues. Virtues must be cultivated through habituation and both social and environmental supports. In Aristotle’s view, we must have adequate support and training in good habits right from our youth to lay the ground for virtues to develop. But it is possible, perhaps, to think of training in research science as another type of formative moment for virtue. As Gluck described his own training, there were what we might think of as both virtue-supporting and virtue-undermining forces. On the one hand, he had to imbibe the science view of animals as objects and tools for science and the eventual promotion of human health. He learned from the behaviorists to avoid any supposition of mental life as explaining stimulus response. He learned to drive out “emotional” reactions to imposing animal harms and to ink out names impulsively written on monkey cages. At the same time, Gluck was encouraged to think for himself, to promote his own value as a researcher, and to support and engage students.

In Harlow’s lab, as opposed to the behaviorist-dominated lab in Texas where Gluck did his undergraduate work, Gluck experienced what we can now see as ethically contradictory tendencies: on the one hand, to promote the understanding of the mental and social abilities of primates, and on the other hand, to draw on these very abilities in the deliberate infliction of harm for scientific purposes—what Gluck (1997) himself has called an ethical “paradox” of Harlow’s research. At the same time, Gluck identifies Harlow’s lab as the place where he was most supported in his own developing critical thought, as well as in promoting his sense of self-worth as a primate scientist and broader intellectual. As Gluck describes his own evolution, his own ethical “journey,” it was experiences

as a clinical fellow in Washington state, and later as a bioethics fellow at Georgetown University, that helped to solidify his transition from primate researcher to animal protectionist. Another student of Harlow's, Steve Suomi, continued to do controversial maternal deprivation experiments involving infant macaques through 2015 as chief of the Laboratory of Comparative Ethology at the NIH. Suomi, whose PhD research involved working closely with the vertical isolation chambers, was scarred by these torture devices that Harlow dreamt up. Suomi had them thrown out after the studies ended, because an isolate monkey, he said, “will tear your heart out” (Blum 2011, 229).

The point of this essay is not say whether it was a good thing that Gluck or Suomi ended up where they did, any more than it is to analyze Harlow's character once and for all. It is rather to draw attention, through some tools of virtue ethical framing, to the nuances missing in some of our modes of ethical evaluation of primate science. While consideration of rights, welfare, and regulatory reform are all critical to moving forward in animal ethics, we must not forget the ethical journeys of those who engage in primate science and the animals to whom they relate. We must keep our eye on the social and structural supports of developing compassion, care, intellectual integrity, and other relevant virtues; on the need to promote caring relationships between scientist and subject; and on the need to see animal welfare as reaching beyond a lack of psychological and physical pain and distress to real flourishing.

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