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**Veganism, (Almost) Harm-Free Animal Flesh, and Nonmaleficence:
Navigating dietary ethics in an unjust world**

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Arguments for ethical veganism draw attention to the ways in which animal agriculture harms nonhuman animals, the environment, and humans around the globe. Various philosophical approaches are used in defense of veganism, the dominant ones being utilitarian and rights-based approaches. Utilitarians, such as Peter Singer (1975) and Alastair Norcross (2004), argue that it is wrong to consume factory farmed products because doing so causes significant pain and suffering, which is not outweighed by the pleasures of meat-eating. Tom Regan (1983), who advances a theory of animal rights, argues that animals have the right to respectful treatment, which amounts to the right not to be viewed or treated as a resource. Because animals are viewed and treated like resources when they are raised and killed for food, the philosophy of animal rights declares that it is wrong to consume animal products when plant-based alternatives are available. James Rachels (2004), however, recommends that we consider the things that we eat one thing at a time, instead of supporting a sweeping prohibition against eating animal products. Dietary ethics is complicated, as we must consider thorny questions that present compelling challenges to veganism, such as: Which animals are sentient? Do plant-based diets cause harm? And if so, do they cause *more* harm than some animal-based diets?

Despite the moral complexities associated with food consumption, there is at least one well-grounded claim that helps us understand some of what morality demands when it comes to food

ethics: it is wrong to raise and kill *sentient* animals for food *when plant-based alternatives are available*. This is the conclusion of the Nonmaleficence Argument, which I present and defend in this chapter.¹ But, as I will argue, the truth of this claim does not entail that we should *only* harvest and eat plants. Rather, the truth of this claim suggests that we should consider ways to produce and consume animal products without harming sentient animals. In what follows, I propose how we might do just that.

Animal Welfare Considerations

99 percent of animal products sold in supermarkets come from Concentrated Animal Feeding Operations (CAFOs), better known as “factory farms.” Undercover videos taken at these farms reveal that factory farmed animals lead, as Singer puts it, “miserable lives from birth to slaughter” (Singer 1975, 97). Female pigs are often confined to farrowing and gestation crates, “veal” calves are penned in solitary crates, and 95% of laying hens are locked in battery cages, all of which render animals unable to turn around, let alone walk *for their entire lives*. The movement of animals who are not confined to crates or cages is also severely restricted, as they are confined to enclosed, overcrowded sheds with thousands of other animals. The extreme crowding and unnatural living conditions induces aggressive and neurotic behaviors: chickens peck each other, often to death, pigs bite each other’s tails, and cattle thrust their horns into each other. To prevent these aggressive behaviors, which result in financial loss to meat producers, farmers painfully mutilate these animals; they de-beak chickens, dehorn and brand cattle, clip the teeth of and taildock pigs, and castrate pigs and cattle, *all without pain relief*.

Factory farmed animals are surrounded by and continuously inhale overbearing fumes of urine and feces, and this often leads to painful illnesses, infections, and wounds that go untreated.

The unnatural and restrictive conditions of factory farms cause animals to suffer from boredom, fear, stress, and anxiety. Babies are separated from their mothers before the time of natural weaning, which is emotionally traumatizing and stressful for both offspring and mother (Newberry and Swanson 2008).

Most factory farmed animals never see the light of day until they are hauled off to slaughter. The journey to slaughter is itself often long and painful. Some animals are on the road for days without food or water, and many die from thirst, hunger, wounds and/or injury before reaching the slaughterhouse. Others arrive at the slaughterhouse tired, hungry, dehydrated, frightened, confused, and/or with broken bones. The cows, cattle, and pigs who are unable to walk because of injuries or illnesses, referred to as “downers,” have ropes or chains tied around their legs and are dragged to slaughter (PETA 2019). The animals who can walk are kicked and smacked with iron pipes and electric prods as human handlers usher them into confinement pens, where they wait until it is their turn to walk single-file to the “kill floor.”

As they wait in line to be killed, animals smell the blood of their conspecifics, sense their fear, and listen to their terrifying screams. As one former slaughterhouse worker recalls,

[T]he chickens are panicking. Many of them are squawking loudly, some are just sitting there trembling. Sometimes you catch one looking up at you, eye to eye, and you know it's terrified...No one can convince me that that chicken did not know what was about to happen. (Butler 2003)

When it is time for their slaughter, cows, cattle, and pigs are restrained on conveyor belts, which bring them to a slaughterhouse employee who uses a stunning device, often a captive-bolt gun or electric shock gun, on the animals. If the stunning procedure is successful, the animals will be rendered unconscious before they are hung upside down, their throats are slit, and their bodies

bleed out and are ripped apart. Yet because many slaughterhouse employees are poorly trained and the “kill line” moves so quickly, animals often are not stunned properly. Some slaughterhouse workers admit that they regularly cut the hocks off completely conscious cattle and that animals are often alive and fully conscious when they are mutilated by “tail cutters,” “belly rippers,” and “hide pullers.” As Ramon Moreno describes it: “They blink. They make noises...The head moves, the eyes are wide and looking around...They die piece by piece” (Warrick 2001).

Legal Issues

It certainly would violate state anti-cruelty laws to treat dogs and cats the way that farmed animals are treated. But the terrible treatment of farmed animals just described is perfectly legal, as there are no federal laws governing the conditions in which farmed animals are raised (Wolfson 1996). Most acts that cause extreme pain and suffering to farmed animals, such as mutilations without anesthetic, are exempt from state anti-cruelty laws because they are considered “standard” or “commonly accepted” agriculture practices (Wolfson 1996). Although some cruel, non-standard practices, such as bashing the heads of pigs into cement floors, are illegal, random acts of cruelty are nevertheless widespread on both factory farms and slaughterhouses, and those who commit such atrocious offenses are rarely punished (Singer and Mason 2006).

There are only two federal laws that apply to the treatment of farmed animals, and these laws pertain just to their slaughter and transport: *The Humane Slaughter Act*, which requires that (some) animals be rendered unconscious before slaughter, and *The Twenty-Eight Hour Law*, which requires that (some) animals be unloaded and given rest, water, and food if they are transported for more than 28 consecutive hours. However, these laws are rarely enforced and are routinely violated (Gail Eisnitz 1997). Moreover, neither law protects “poultry,” despite that 95 percent of the land

animals killed for food in the U.S. are birds (Pew Charitable Trusts 2008). Thus, it is perfectly legal to grind up chickens alive or to suffocate them to death in trash bags, as is done to 260 million male chicks each year in the egg industry.

The Nonmaleficence Argument

While animal *rights* theorists claim that the abuse of animals on factory farms violates their rights to life, freedom, and bodily autonomy, one need not endorse an animal rights view to condemn factory farming. One might rather argue that factory farming is immoral because it causes *unnecessary harm*. This is the fundamental idea behind what I call the Nonmaleficence Argument:

P1) Raising and killing animals for food on factory farms causes unnecessary harm.ⁱⁱ P2)
It is wrong to cause unnecessary harm.
Therefore, it is wrong to raise and kill animals for food on factory farms.

I expect there to be close to universal agreement with P2. This principle of nonmaleficence is perhaps the only moral principle that is beyond serious doubt, and it is accepted by virtually every minimally decent theory of ethics (DeGrazia 1996: 259). But P1 needs further discussion.

P1 makes two assumptions: (1) raising and killing animals for food causes harm, and (2) this harm is unnecessary. Clearly, raising and killing animals for food on factory farms causes terrible pain and suffering to farmed animals. But sometimes causing harm is *necessary*. For instance, when children visit the doctor for standard immunizations, the injections usually cause pain to the children, and thereby harms them. But it does not follow that immunizing children is wrong. After all, the harm is *necessary* for their health. Likewise, if it turns out that eating animals is necessary *and* animal factories are needed to feed a large and growing population of humans, then perhaps factory farming is not wrong. But not all acts characterized as “necessary” are morally

permissible. It is *necessary* for me to torture kittens if I want to know what torturing kittens feels like, but clearly torturing kittens is impermissible. In general, when the term “necessary” is used in ethical discourse, the concern is with what is *morally necessary*.

For some harm X to be characterized as *morally necessary*, two conditions must be met:

1. The harm X must be caused in the name of an end Y that is worth the cost of the harm X.
2. We cannot achieve end Y unless we perform some activity that produces harm X.

One might argue that factory farms harm animals for the “worthy end” of human health, which is allegedly worth the cost of the harm done to animals. Yet, we must bear in mind that we are able to achieve this end without factory farming. After all, we can harvest plant-based foods. The position of the American Academy of Nutrition and Dietetics (2009), which is the world's largest organization of food and nutrition professionals devoted exclusively to nutrition and dietetics, is that an appropriately planned vegan diet is perfectly healthful and nutritionally adequate.ⁱⁱⁱ This is also the position of other reputable health organizations, including the Mayo Clinic (2016), the National Institutes of Health (2012), the USDA Center for Nutrition Policy and Promotion (2011), Kaiser Permanente (2013), and the American Heart Association (2018). Because humans, at least in industrialized countries, do not need animal flesh to be healthy, the terrible suffering inflicted upon factory farmed animals before they end up on our plates is done for mere *gustatory pleasure*. Although most humans value pleasure, gustatory pleasure surely is not worth the cost of the harm done to factory farmed animals.^{iv}

Ecological Considerations

The Nonmaleficence Argument maintains that animals endure terrible harms on factory farms and that these harms are *unnecessary*. But these are not the only harms produced by factory farming.

After all, dietary choices can impact both humans and wildlife through the intensive use of valuable resources, climate change, and deforestation (Sherriff 2017).

Climate Change: In 2006, the United Nations Food and Agriculture Organization (FAO) reported that animal agriculture is responsible for 18% of global greenhouse (GHG) emissions (Steinfeld et al 2006). Moreover, a 2009 Worldwatch Institute study counters that animal agriculture is responsible for 51% of global emissions (Goodland and Anhang 2009). However, the methods and methodologies used in the Worldwatch study have been called into question by Mario Herrero et al. (2011) in a recent commentary in *Animal Feed Science and Technology*.^v

But even if animal agriculture is responsible for 18%, and not 51%, of GHG emissions, it still stands that animal agriculture is responsible for more emissions than the *entire* transportation sector. Indeed, the United Nation's FAO report estimates that the animal agriculture sector is responsible for at least 9% of annual anthropogenic carbon dioxide (CO₂) emissions, 35–40% of annual anthropogenic methane emissions, and 65% of global nitrous oxide emissions (Steinfeld et al. 2006). Methane production and nitrous oxide production are especially worrisome because methane has 23 times the Global Warming Potential (GWP) as CO₂, and nitrous oxide has 296 times the GWP as CO₂.

The production of GHGs contributes to global warming, and an excessive amount of global warming causes climate change. Climate change, which refers to a change in global or regional climate patterns, causes an increase of storms, floods, heat waves, droughts, and desertification.

Currently, *humans* around the globe are suffering from climate change, as their homes are destroyed by rising sea levels, floods, wildfires, tropical cyclones, and storms, leaving them displaced, often permanently, and forced to migrate (IPCC 2007). Wild animals, too, are vulnerable to the effects of climate change, as their homes are frequently washed or melted away due to excessive climate warming (Pagano et al. 2018).

Water Pollution: Animal manure and commercial fertilizers and pesticides, which are sprayed on animal-feed crops, frequently end up in oceans, lakes, and rivers, and this causes eutrophication. Manure and commercial fertilizers contain phosphorus and nitrogen, and excessive amounts cause algae to thrive. This sharply increases the occurrence of algal blooms, and algal blooms cause dead-zones, which are areas in oceans, rivers, and lakes that do not have enough oxygen and sunlight to support marine life.

Water Overuse: Agriculture accounts for 92% of the global freshwater footprint, and one third of this is used to grow grain that is eventually fed to livestock (Gerbens-Leenes et al 2013; Mekonnen et al 2012). Producing one kilogram of animal protein requires about 100 times more water than producing one kilogram of grain protein (Pimentel and Pimentel 1996). While one pound of beef requires approximately 2,400 gallons of water, one pound of Tofu requires approximately 219 gallons (Kreith 1991).

Deforestation: A third of the earth's arable land is used to grow crops to feed animals on CAFOs, and mass deforestation is needed to make way for fields of animal feed. Because an excessive amount of CO₂ is released into the atmosphere when forests are cleared, deforestation has a deleterious effect on climate change (Steinfeld et al. 2016). And since deforestation also destroys species-rich habitat, it is the biggest threat to biodiversity (Machovina et al. 2015).

Desertification: 30% of the earth's territorial surface is used for livestock grazing, and 70% of the Amazon has been destroyed for livestock grazing (Steinfeld et al. 2016). Overgrazing leads to soil erosion, a process of desertification, which significantly reduces agricultural and forestry production. This impairs the livelihoods of the poor and vulnerable humans residing in these areas, as these areas can no longer be used for farming purposes (United Nations 2012).

Humanitarian Considerations

Factory farming directly impacts human wellbeing in a variety of ways. For one, those who work on slaughterhouses are subject to poor working conditions and serious physical health hazards, as evident by the number of job-related injuries. Approximately 25% of slaughterhouse workers suffer work-related illness or injuries each year (Worrall 2004). Slaughterhouse workers perform repetitive motions throughout the work day, such as cutting with knives every few seconds, which explains why the meatpacking industry has the highest rate of repetitive-motion injuries. Cumulative trauma disorders ("CTDs"), such as carpal tunnel syndrome, "trigger finger," or back and shoulder problems, are common for slaughterhouse workers (Worrall 2004). Many injuries go unreported, as many workers are undocumented immigrants, who risk deportation if they report problems (Worrall 2004). Moreover, because slaughterhouse work is innately violent, and workers gruesomely kill hundreds of animals each hour and thousands of animals each week, the workers likely suffer severe psychological trauma (Dillard 2008; Scholesser 2002; Eisnitz 1997). Slaughterhouse workers are susceptible to a post-traumatic stress disorder called perpetration-induced traumatic stress (PITS), which is the psychological stress one experiences in virtue of being the cause of another's trauma, such as the trauma that farmed animals endure (Dillard 2008; McNair 2002). As a former slaughterhouse worker reveals, "[a] lot of

[slaughterhouse workers] have problems with alcohol. They have to drink, they have no other way of dealing with killing live, kicking animals all day long. If you stop and think about it, you're killing several thousand beings a day" (Eisnitz 1997: 87-88). Researchers suspect that this psychological trauma has a "spillover" effect on nearby communities, as counties with slaughterhouses have noticeably more violent crime (Fitzgerald et al 2009).

Moreover, CAFOs are usually located in impoverished, rural parts of America, and these communities are affected disproportionately by factory farm emissions (Pew Charitable Trusts 2008). For example, the tremendous quantities of animal waste produced on factory is disposed of in "cesspools" or manure lagoons, which are large open pits, often the size of four football fields. Eventually, cesspools must be emptied out, and this is done by spraying liquid waste, which often drifts down wind into neighboring communities (Toliver 2017). Because communities of color suffer disproportionately from asthma and other upper respiratory issues from the spraying of toxic waste, CAFOs are rightly charged with environmental racism (Carter 2016; Wallinga 2004; Kresge and Strohlic 2007).

The impacts of factory farming stretch well beyond neighboring communities and are felt by the global poor. Currently, millions of people go to bed hungry every night because they do not have enough to eat. Meanwhile, farmers feed, on average, 8 pounds of plant protein to pigs in return for one pound of pork, and they, on average, feed 21 pounds of plant protein to cattle in return for one pound of beef (DeGrazia 2002: 75). This is an inefficient use of plant protein, especially in a world where hunger is so prevalent. Research shows that if animal-based products are replaced with plant-based foods, there would be enough food to feed 350 million additional people (Shepon et al. 2018).

Eating Animals Anyway: “Humane” Farms

Although factory farming clearly is impermissible, some argue that raising and killing sentient animals for food is not *inherently wrong*, as there are alternative, more “humane” forms of animal agriculture. This position, championed by Michael Pollan (2006), is known as “compassionate carnivorism,” “benign carnivorism,” or “welfarism,” which contends that while animal agriculture ought to be *reformed*, it need not be *abolished*. On this view, so long as animals are given “happy” lives on farms and killed painlessly, it is permissible to use and kill them for food. As the argument goes, the lives of animals on “happy” farms contain more happiness than suffering, so “humane” farms do a good thing when they bring “happy” animals into existence, even if they are eventually killed for food.

The first problem with this argument is that it overlooks the tremendous suffering of animals on “happy” farms. For instance, animals on “free-range” and “cage free” farms are often mutilated without anesthetic. Moreover, while chickens on “free-range” farms must be given outdoor access, the “outdoors” is usually a small patch of dirt, accessible only through a small hole in the wall of an overcrowded shed that only a handful of birds can ever reach. Hence why “freerange” farms are said to provide only “phantom access” to the outdoors. Likewise, hens living in “cage-free” facilities are usually de-beaked without anesthetic, confined to overcrowded, filthy sheds with thousands of other birds, and denied outdoor access. Both “free range” and “cage free” chickens are eventually sent to slaughterhouses, where many are forced into scalding-hot defeathering tanks while they are fully conscious. Male chicks, who have no value to the egg industry, are usually suffocated in trash bags or ground up alive.

There are no official federal guidelines for the definition of “humanely raised.” Rather, animal producers determine their own definition of “humane,” and the United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) approves this labelling by “verifying” that the company follows its own arbitrary standards (Farm Sanctuary 2009). To “verify” that meat producers adhere to their self-defined “humane” standards, the FSIS reviews “supporting documentation” that meat producers submit, such as testimonials and affidavits signed by *meat producers themselves* (USDA FSIS 2016). Neither third-party verification nor on-farm inspection is required for “humane” labelling, so the FSIS does not conduct inspections of these farms to determine whether they are really “humane” (USDA FSIS 2016).

Bob Fischer (2018) points out that even if there are farms that really do give animals good lives, it is unlikely that consumers know where to find these farms. While there are independent “humane” certifiers, the standards differ significantly from each other, and most, if not all, animal products that are labelled “certified humane” are products of serious pain and suffering (McWilliams 2017). For instance, animal products that come from farms that mutilate animals without anesthetic are certified as “humane” by the American Humane Association and the Humane Farm Animal Care organization, two popular independent “humane” certifiers. Moreover, most animals raised on “humane” farms end up in the same slaughterhouses as factory farmed animals (Stănescu 2016). As McWilliams (2017: 247) puts it, “even the most loving treatment of farm animals ends in a violent and unnecessary death.” Although there may be less suffering on “humane” farms than there is on factory farms, the suffering still exists, and it is still unnecessary. Consequently, raising and killing sentient animals on “humane” farms is impermissible.

One problem with the rhetoric of “humane” farming is that it seems to endorse what I call the Inhumane Argument.

- P1) Animals on “humane” farms suffer less than animals on factory farms.
- C) Therefore, it is permissible to raise and kill animals for food on “humane” farms.

Note that there is a hidden premise of this argument: *For any act A, if act A causes less suffering than act B, then act A is permissible.* If it is not obvious why this is false, consider what it implies for human torture.

- P1) A human who is tortured for 20 hours suffers less than a human who is tortured for 24 hours.
- C) Therefore, it is permissible to torture a human for 20 hours.

While it might be more “humane” to torture a human for 20 hours than it is to torture a human for 24 hours, clearly torturing someone for 20 hours is impermissible. Likewise, while it might be more “humane” to raise and kill animals on non-factory farms than it is to raise and kill animals on factory farms, it is still impermissible to harm animals on “humane” farms. Although the welfarist might insist that animals on “humane” farms suffer much less than animals on factory farms, to the point where they have lives worth living overall, the evidence strongly suggests that most animals raised and killed on “humane” farms *do not* have lives worth living. Just think about the hens living in “cage-free” facilities who are de-beaked without anesthetic and confined to overcrowded, filthy sheds with thousands of other birds for their entire lives before they are violently killed. Surely, that kind of life is not worth living. Given the tragic reality of “humane” farms, those who defend them *are* fundamentally committed to the Inhumane Argument, including its morally outrageous hidden premise.

But let us grant, for the sake of argument, that there exist *some* farms with animals who have lives worth living. Say there are farmers who provide their animals with appropriate veterinary care, refuse to mutilate them without anesthetic, protect them from inclement weather by offering them clean and comfortable housing, allow them to roam freely in the outdoors with their family members and conspecifics, and provide them with ample opportunities to engage in their natural behaviors. And say the animals are killed painlessly. Still, there are at least three reasons why animals should not be raised and killed on “ideal” farms.

First, approximately 56 billion land animals are killed for food each year and global animal flesh consumption is expected to double by 2050, which means that, if people continue to eat farmed animals (at the current rate of consumption), there will be approximately 120 billion animals raised and killed for food in 2050 (Steiner et al 2006). There simply is not enough room on this planet for 120 billion animals to roam freely (Stănescu 2016). The “compassionate carnivore” ideal is thus *physically impossible* (Stănescu 2016).

Second, even if it were physically possible, it would be *ecologically devastating* (Stănescu 2016). For one, the amount of deforestation needed to make room for billions of free roaming animals would cause tremendous amounts of CO₂ to be released into the atmosphere, the massive degradation of wildlife habitat, and a sharp decrease in biodiversity (Stănescu 2016). Increased grazing of livestock will inevitably lead to increased killing of native wildlife, especially apex predators, by Wildlife Services, who, each year, kills millions of native animals, such as cougars, wolves, foxes, and coyotes, in the name of livestock protection (USDA Animal and Plant Health Inspection Service 2016). Moreover, since grass-fed cattle do not reach slaughter weight as quickly as do grain-fed cattle, grass-fed cattle live longer than grain-fed cattle, and with longer lives comes

greater methane production (Capper 2012; Hayek and Garrett 2018). Although one might suggest that we could mitigate ecological impacts by raising the price of meat, which likely would decrease the demand for meat, this alternative “reform” would provide animal foods to only a privileged few, which is hardly a reform at all (McWilliams 2017: 249; Stănescu 2016: 138).

Third, other things equal, death *itself* harms animals, even when they are killed painlessly. To see why this is, imagine the case of a healthy, happy human—call her Sarah—who, while sleeping soundly in bed, is killed painlessly. Surely, other things equal, her killer acted wrongly because he harmed Sarah *herself*. But how could Sarah be harmed if she did not experience pain or suffering when killed?

One possible answer is that Sarah is harmed because she had a desire to continue living, and this desire was thwarted by her death. This explanation stems from the desire-satisfaction view, which holds that death harms the one who dies only when death thwarts a personal interest in continued life (Singer 1979). Some argue that, on this view, most nonhuman animals are not harmed by death because they are incapable of desiring to go on living (Singer 1979), a claim that is itself highly dubitable. As the argument goes, only self-conscious creatures can have the desire to live, that is, creatures with the ability to “conceive of themselves as distinct entities, existing over time with a past and a future” (Singer 1979). And as Singer (1979) argues, since most nonhuman animals are not *self-conscious*, they do not have a personal interest in continuing to live, so killing sentient animals for food is not always wrong.

The shortcomings of the desire-satisfaction view are revealed when we consider the case of a suicidal person who does not have the desire to live. Imagine someone—call him Sam—who is healthy, but momentarily depressed and thus intent on ending his life. Sam has no future oriented

desires, besides the desire to kill himself, which would not be thwarted by his death. Arguably, it would be right to try to convince Sam not to kill himself. And presumably one would do so by pointing to the fact that, although Sam does not desire to live, his future is full of opportunities for pleasures and satisfactions. This suggests that the most plausible explanation why Sam's death is bad *for him* is that his death permanently forecloses his future opportunities for satisfaction—satisfactions he would enjoy if he continued to exist. Consequently, other things equal, *any* being who has future opportunities for satisfaction is harmed by death, and because farmed animals who live decent lives have these opportunities, they, too, are harmed when they are killed prematurely, even if their deaths are painless (Regan 1983; DeGrazia 2002; Sapontzis 1987). And as Regan compellingly argues, an untimely death is the ultimate, irreversible harm “because it is the ultimate loss- the loss of life itself” (Regan 1983: 100). While, on the Nonmaleficence Argument, it *might* be permissible to raise animals on “ideal” farms, it surely is wrong to kill them, even painlessly.

Challenges for Veganism

So far, I have argued that it is wrong to raise and kill sentient animals on farms: factory or “humane” farms. But perhaps there is a gap between the ethics of *producing* animal products and the ethics of *purchasing and consuming* them. As one might argue, although it is wrong to *raise and kill* sentient animals on farms, it is not wrong to *buy and consume* animal products that come from these farms. As the argument goes, one person's consumption choices will not be noticed by farmers, so the purchasing decisions of individuals do not impact the number of animals raised and killed on farms. And since our purchases are causally inefficacious, we might as well buy and eat meat. This is known as “the causal impotence problem.”

There is a case to be made that our purchasing decisions *do* make a difference. As Norcross

(2004) compellingly argues, while the market is insensitive to one person's purchasing choices, there is some threshold at which the number of vegans will influence the market and thereby reduce the number of sentient animals raised and killed for food. Because an individual's decision to stop purchasing traditional animal products may be the "tipping point," or it will at least reduce the amount of time it takes to reach this tipping point, it is impermissible for individuals to purchase farmed animal products.

Gaverick Matheny's (2002) provides a related and compelling argument. Say there are 20 million meat-eating customers per "threshold unit," and say if 20 million people stop eating animals, there will be one billion fewer animals raised and killed on farms each year. This means that each individual consumer has a one-in-20 million chance of sparing one billion animals a life of misery. The expected "disutility" of purchasing meat, then, is the raising and slaughtering of 50 farmed animals (one-20-millionth times one billion). And since we know not the *actual* effects of our actions before we act, we ought to make consumption decisions based on their *expected* consequences. In this situation, the expected consequence of eating meat is the "disutility" of raising and killing 50 farmed animals per year. Surely that is substantial enough to conclude that buying the flesh of farmed animals is wrong.

Individuals like you and I, who have access to less harmful alternatives, act wrongly when we purchase what Fischer (2018) calls "traditional animal products," i.e., the flesh and products of sentient animals who were raised and killed for food. But this does not entail that it is always wrong to buy and consume animal products. And I do not intend for this argument to be used in defense of veganism. After all, ethical veganism is itself demonstrably arbitrary insofar as it dogmatically claims that although it is permissible to eat plants, it is *never* permissible to eat animals—sentient

or insentient. For instance, when asked for his perspective on the ethics of bivalve consumption, popular vegan activist Gary Yourofsky responds:

Clams and mussels and oysters are not plants and are not listed in any science book as plants. The fact they contain animal protein should let you know that they are off limits...being vegan means that you don't consume animal products...So, forget about the clams, forget about the scallops, stick to the fruits and vegetables. (Barwick 2014)

But what is the morally relevant difference between plants and insentient animals, such as bivalves (clams, mussels, oysters, and scallops)? What is the morally relevant feature or characteristic that *all* animals possess and *all* plants lack? If there is no such feature, veganism is guilty of what I call *kingdomism*—the view that an animal is entitled to serious moral consideration just because of its membership in the animal kingdom. This is not to suggest that it is inherently morally problematic to eat plants or to suggest that plants might be sentient, as some suggest (Smith 2016). Rather, this is a challenge to the vegan's claim that it is wrong to eat *insentient* animals. After all, the most compelling arguments against meat-eating ground serious moral status in *sentience*, but there are some animals that are not sentient, such as bivalves, which have no brains and only simple nervous systems. Moreover, farming bivalves has minimal ecological impacts and is relatively sustainable (Jacquet et al 2017). Thus, some animal ethicists defend ostroveganism, the view that while it is impermissible to eat the flesh and product of *sentient* animals, it is permissible to eat the flesh of insentient bivalves (Cox 2010; Huemer 2019).

Relatedly, Chris Meyers (2013) and Fischer (2016) suggest that because it is highly unlikely that insects are conscious, we should move toward entomophagy—an insect-based diet. But some worry that insects may have the capacity for basic consciousness, as structures in their brains might function analogously to the mammalian cortex, and many insects engage in what

appears to be intelligent behavior (Klein and Barron 2016). However, even if this hypothesis were true, it would not establish that insects are *sentient*; it would only establish that they have subjective awareness. Sentience requires awareness that involves *feeling*, and creatures like insects might have basic consciousness without being sentient (DeGrazia 2019). Though to be safe, perhaps we should opt for eating bivalves instead of insects.

It is not morally problematic to claim that, other things equal, eating insentient animals is permissible. What is problematic is determining which beings are and are not sentient. Because we cannot definitively know whether bivalves are sentient, those who oppose the consumption of bivalves often appeal to a *precautionary principle*. The idea here is that we ought to give bivalves the benefit of the doubt and err on the side of caution by not eating them. But it is arbitrary to apply the precautionary principle to bivalves, but not to plants. While one might argue that there is more doubt about whether bivalves are sentient than there is about plant sentience, justification for this claim is wanting. Although there is evidence that bivalves have opioids and opioid receptors, there is also evidence that plants excrete endogenous opioids when wounded or subjected to stress and that analgesics affect plant “response” (Smith 2016). While bivalves have simple nervous systems, some plant neurobiologists report that plants, too, have nervous systems (Baluska and Mancuso 2009). And even if there is slightly more evidence for bivalve sentience than there is for plant sentience, this does not imply that bivalves are off-limits. As Fischer (2016) compellingly argues, if we have the choice to harm either beings that we know to be sentient or beings that we do not know to be sentient, we should choose the latter. Since industrial plant production might cause harm to animals who are clearly conscious, such as field mice who are frequently run over by plow machines, we should consider reducing our consumption of plants by eating “maybe sentient” animals.

Perhaps, though, there is a better way to reduce our consumption of plants—a way that does not involve killing and eating “maybe sentient” animals. Jeff McMahan (2008: 9), for instance, proposes that it is morally permissible to raise sentient animals for food if: (1) they are genetically programmed such that they die at an early age when “their meat would taste best,” and (2) we eat them only after they die “naturally.” Adam Shriver (2009) suggests using biotechnology to genetically engineer farmed animals to be insentient. Others suggest that it is permissible, if not obligatory, to eat scavenged flesh, such as roadkill or animal flesh obtained through dumpster diving (Milburn 2017; Bruckner 2015; Fischer 2018). While these proposed solutions are either controversial, unachievable fantasies, or unlikely to provide enough food for a growing population, there is a more realistic, less controversial, promising, and forthcoming “solution”: growing animal flesh in laboratories. Cultured meat companies have successfully grown what is called “labgrown,” “in vitro,” “cultured,” or “clean” meat by harvesting, incubating, and feeding animal cells, and these products will soon be cost-effective and commercially available. The mass production of cultured animal products, *when certain energy sources and production systems are used*, has the potential to eliminate massive farmed animal suffering *and* minimize the ecological harms associated with (plant or land animal) agriculture (Tuomisto and Joost Teixeira de Mattos 2011)

Some animal ethicists disapprove of the production of cultured meat on the grounds that it allegedly requires the harming of animals (Wrenn 2012). For instance, to grow meat in a lab, cells from animals must be harvested, through a biopsy procedure, from “donor” animals. The cells then must be “fed,” and some companies use an animal-based blood serum (fetal bovine serum) to feed the harvested cells. There is thus a worry that lab grown meat still requires the raising and slaughtering of animals. Yet, others insist that animal use is not needed to produce cultured meat.

For instance, the company Just used the feather of a chicken to harvest chicken cells, and the company grew these cells without animal-based blood serum.

Still, some worry that the normalization of cultured meat will perpetuate disrespectful attitudes towards animals or reinforce the view that humans have, while animals lack, dignity (Donaldson and Kymlicka 2011: 152). But it is unclear whether this concern is weightier than the alleged harms caused by industrial plant production. After all, growing plants for human consumption often involves deforestation and thus the destruction of wildlife habitat. In Indonesia and Malaysia, orangutans are often burned alive as forests are blazed in order to make room for palm oil plantations (Miles et al 2007). Heavily processed meat substitutes are often made from plants raised in monoculture on formerly forested lands and require large amounts of pesticides and fertilizers, and this, as discussed earlier, causes serious ecological harm (Henning 2016). Many field animals are killed in the standard process of plowing, planting, harvesting, protecting crops, and pest management (Lamey and Fischer 2018). Because conventional plant agriculture allegedly involves animal suffering and death, Milburn (2017) and Fischer (2018) propose that the eating animals discourse acknowledge that some animal-based diets are not simply permissible, but moreover obligatory. The basic idea is that some animal-based diets may be less harmful than the average plant-based diet. If this is true, certain “non-traditional” animal-based diets may be morally preferable to strict veganism.

Elsewhere, I argue that eating animal bodies, including roadkill, is morally problematic, insofar as the act of eating animals expresses the disrespectful view that animals are mere consumables, at least in cultures that condemn the consumption of human corpses (Abbate 2019). I also question whether industrial plant production causes an *all-things-considered* harm to field

animals. Hence, I remain skeptical of the claim that we are *obligated* to consume roadkill. I suggest that if we come across fresh roadkill and can transport it, we donate it to animal sanctuaries rather than consume it ourselves (Abbate 2019). But does this worry about the consumption of roadkill extend to the consumption of cultured meat?

Arguably, there is a moral distinction between eating lab grown meat and consuming roadkill. Eating roadkill involves the consumption of animal bodies that once belonged to living, sentient animals, but, as Julian Savulescu and G. Owen Schaefer (2014) point out, cultured meat is essentially a group of cells and tissue in a petri dish, which are more like plants than animals. So, consuming cultured meat does not express the disrespectful view that animals are mere consumables; rather, it expresses the view that *a group of cells and tissues* are mere consumables. Surely that is not morally objectionable. So, *if* it turns out that industrial plant production is more harmful than the production of cultured meat, consumers ought to get some of their protein from cultured meat, when it becomes commercially available. But *roadkill* should be donated to animal sanctuaries.

There is a worry that at least some ways of producing cultured meat are as, or even more, harmful to the environment than cattle production (Lynch and Pierrehumbert 2019). Perhaps, then, if bivalve farming has minimal environmental impact, we ought to focus our efforts on increasing bivalve production instead of cultured meat. And, for practical reasons, we ought to emphasize the reasons for eating bivalves in our conversations about food ethics, as ostroveganism arguably is manageable and less demanding than veganism. While we should emphasize the importance of pursuing a diet that causes *minimal harm*, we must be mindful of the importance of recommending

diets that are *practical* in our growing world. Those who promote ostroveganism seem to understand the importance of doing just this.

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Nationwide shift to grass-fed beef requires larger cattle population

ⁱ Insofar as the argument presented here is not committed to a particular ethical theory, it has much in common with both David DeGrazia’s (2002) and Rachels’s (2004) common sense arguments, which are supposed to rely on simple moral principles that any decent person will accept.

ⁱⁱ Throughout this paper, when I use the phrase “unnecessary harm,” I refer to harm that is either *intentional* or *foreseeable*. ⁱⁱⁱ Even if *some* people, such as those living in drought-stricken areas in the Horn of Africa, need to consume animal products, it doesn't follow that it justifies standard practices in the industry. If some people truly need animal products, their need could be supported by much more humane farms. Moreover, their *need* does not justify another’s *choice* to harm animals.

^{iv} Moreover, research shows that animal-based diets, which are high in cholesterol and saturated fat, are harmful (Harvard School of Public Health 2016; World Health Organization 2015). Appropriately planned vegan diets are considered optimal for human health because the alternative, animal-based diets, bring about increased risks of developing heart disease, various cancers (including breast, liver, and prostate cancer), type 2 diabetes, and obesity. Hence, health experts from Kaiser Permanente (2013) urge physicians to recommend a plant-based diet to their patients. So, even if great gustatory pleasure is to be had from an animal-based diet, the long-term benefits of a healthier, longer life surely outweigh this pleasure (Garrett 2007).

^v Herrero, though, works for the International Livestock Research Institute, so given his invested interest in the livestock industry, this commentary is itself questionable.