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Chewing over *in vitro* meat: Animal ethics, cannibalism and social progress

Josh Milburn

Abstract: Despite its potential for radically reducing the harm inflicted on nonhuman animals in the pursuit of food, there are a number of objections grounded in animal ethics to the development of *in vitro* meat. In this paper, I defend the possibility against three such concerns. I suggest that worries about reinforcing ideas of flesh as food and worries about the use of nonhuman animals in the production of *in vitro* meat can be overcome through appropriate safeguards and a fuller understanding of the interests that nonhuman animals actually possess. Worries about the technology reifying speciesist hierarchies of value are more troublesome, however. In response to this final challenge, I suggest that we should be open not just to the production of *in vitro* nonhuman flesh, but also *in vitro* human flesh. This leads to a consideration of the ethics of cannibalism. The paper ultimately defends the position that cannibalism *simpliciter* is not morally problematic, though a great many practices typically associated with it are. The consumption of *in vitro* human flesh, however, is able to avoid these problematic practices, and so should be considered permissible. I conclude that animal ethicists and vegans should be willing to cautiously embrace the production of *in vitro* flesh.

Keywords: In vitro meat; cannibalism; animal ethics; animal rights; food ethics; veganism

Many nonhuman animals (NHAs) are, like most humans, sentient. Normative thinkers have used this fact when claiming that there is a *prima facie* wrong in inflicting suffering upon them. More controversial, but nonetheless well-supported, is the suggestion that sentience grounds an interest in continued life, and that, correspondingly, it is *prima facie* wrong to kill

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NHAs.[1] This idea not tied to a particular ethical outlook. To name a few, variations of the claim can be made on the grounds of interest rights (Cochrane 2012), abolitionist veganism (Francione 2010), the capabilities approach (Nussbaum 2006), or even animal welfarism (Kasperbauer and Sandøe 2016) and utilitarianism (Višak 2013). This is not to say that all in the animal ethics debate hold killing NHAs to be wrong, or as wrong as killing humans. So, for instance, Peter Singer (2011, chap. 5) holds (somewhat reluctantly) that killing certain NHAs can be permissible if they are replaced with equally happy NHAs, while interest-rights theorists, such as Alasdair Cochrane (2012, pp. 64-7), typically hold that (most) NHAs do not have *as great* an interest in continued life as (most) humans. For the sake of argument, however, let us assume that we plausibly have reason to believe that the killing of NHAs, *prima facie*, is an ethical problem. If we hold that the death and suffering of NHAs is ethically problematic, given that anyone living in the industrialised West could thrive without eating the flesh (or other 'products') of any animal – human or nonhuman – we would have good reason to believe that veganism is mandatory.

We might then wonder what is to be done concerning the fact that the vast majority of humans in the Western world *do* eat the products of NHA death and suffering (though, thankfully, the vast majority *do not* eat the products of human death and suffering, or, at least, not in as direct a manner). The fact that human consumption of NHAs continues practically unabated suggests that the 'animal movement'[2] has been unsuccessful in one of its key goals (or, minimally, what *should* be one of its key goals). However, it is possible that universal veganism is not the only solution to this problem. In this paper, I will explore a possible alternative approach; namely, the production of *in vitro* meat, or lab-grown flesh (hereafter, LGF).[3]

The technology of LGF is currently in its infancy. In one high-profile project, LGF was produced through the use of stem cells, acquired from NHAs, which were grown into thin strips of translucent flesh. When a sufficiently large amount of these strips had been grown, they were mixed with other ingredients to form a burger, which was eaten by food

[1] There are exceptions to this, such that we can harmfully kill without wronging: Self-defence is an example.

[2] This term should not be used uncritically. Here, I specifically mean those who share a goal of eliminating/grossly diminishing the use of NHAs for food. This might be called the 'vegan project' (Deckers 2013).

[3] Also variously known as cultured flesh/meat, test-tube flesh/meat, carniculture, and frankenmeat.

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writers at an August 2013 press conference. This proved that LGF – flesh which does not require the death or suffering of any NHA – was scientifically, though admittedly not economically, feasible. In the eyes of its supporters (assuming sufficient economic and social backing), LGF will in time become commercially available as an alternative to flesh acquired in more traditional ways, potentially even replacing 'normal' flesh in human diets.

There is already a moderately large literature on LGF, and this has thrown up a number of worries about the technology, including fears about how LGF might alienate humans from nature, or about how LGF fails to respect the 'wholeness' of NHAs. I will take it that these challenges can be overcome (as argued in, e.g., Hopkins and Dacey 2008; Schaefer and Savulescu 2014) and will explore them no further here. Instead, I am interested in reasons why those already concerned with the death and suffering caused by 'animal agriculture' may be worried about LGF. I will explore three such objections. First, I suggest that fears about reinforcing the idea of flesh-as-food are coherent, but, especially given the fact that these are not worries about a right being violated, can be outweighed by the positive potential of LGF. Second, I argue that the fear that the process could involve (or already has involved) direct harm to NHAs could be overcome through appropriate safeguards, a recognition of which interests NHAs do and do not possess, and the familiar ethical consideration of ill-gotten gains. Finally, I consider the objection that LGF will continue to endorse or even reify false human/'animal' dichotomies and hierarchies, and that this gives us a reason to oppose LGF. In response, I claim that this gives us good reason, contrary to the view of many supporters of LGF, to permit the consumption of lab-grown *human* flesh. This will lead into a consideration of the ethics of cannibalism, in which I suggest that cannibalism *simpliciter* is not ethically problematic. In closing, I will suggest that the prospect of LGF is one that animal ethicists and vegans should embrace, albeit cautiously.

Before beginning, it is worth making some brief comments on methodology. This paper could be read as a straightforward enquiry into applied moral/political philosophy. If understood in this way, the paper explores how, given certain premises, we should respond to the ethical questions raised by LGF. It is thus answering the question of whether this is something that we, understood as individuals or as a society, should endorse, permit and/or encourage. However, this is also a work of *social* philosophy, at least insofar as I am interested in exploring the appropriate response that the 'animal movement' should make to this emerging technology. If read as a work of political/social philosophy, the claims can be understood in the context of non-ideal theory. Even if an ideal conception of political animal

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ethics would not include an endorsement of LGF (reasons we might believe this will be explored), ethicists and activists might nonetheless have reasons to endorse the technology in order to combat the actual (putative) injustices in the world today caused by 'animal agriculture', especially given the huge *scale* of these injustices and the apparent *failure* of previous ethical arguments to impact them. To date, the most complete published assessment of non-ideal animal rights has come from Robert Garner (2013). Interestingly, Garner explicitly (but briefly) mentions LGF as a possible non-ideal alternative to animal agriculture, though he expresses concerns about the current unviability of the technology (Garner 2013, p. 136). As such, the present enquiry, if understood through the lens of non-ideal theory, gels neatly with existing approaches.

The flesh-as-food objection

The first objection to the consumption of LGF which I will consider is that it serves to reinforce the idea that flesh is something to be eaten.[4] This is part of a wider concern about the use of analogue ('fake') 'animal products' by vegans (see, e.g., Turner 2005; Litwack 2006; Fischer and Ozturk 2016). Though there is a considerable market for these analogues, a number of vegans avoid them. This is not simply because of the 'yuck'-factor – though there is perhaps something odd about vegans wanting to eat something designed to imitate (a part of) a NHA – but because they do not want to reinforce false beliefs about food.[5] Recent

[4] Matthew Cole and Karen Morgan (2013, pp. 211-4) worry that LGF will reproduce 'the fetishization of meat', while John Miller (2012) criticises the technology for reinforcing 'carnophallogocentric' culture.

[5] Gary Francione is one vegan academic who expresses these concerns. The following (taken from an August 2014 post) is typical of the statements on the subject posted to his widely-followed 'abolitionist approach' Facebook account:

> I continue to get variants of the following questions:
>
> 1. Do you think it is morally wrong to consume "fake" meat (i.e., vegan foods that mimic meat)?
>
> Ans: No, I do not. If the choice is between eating an animal product or a "fake" product, it's a no-brainer.
>
> 2. If you do not think that it is morally wrong to consume "fake" meat, then why are you critical of it?
>
> Ans: I am trying to get people away from the idea that animals are "food" and that we need meat (or cheese) substitutes or else we are deprived of "real" food. I want a diet of vegetables, fruits, grain, beans, and nuts/seeds to not be seen as insufficient in

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research (Piazza et. al 2015) has suggested that people justify their consumption of flesh on the basis of four 'N's: It is *natural* for humans to eat meat, it is *necessary* for health, meat tastes *nice* and it is *normal* to consume NHA-derived products. As such, it is plausible that if animal ethicists want to challenge the practice of meat eating, it is the factuality, moral relevance and/or moral significance of these which they should target. Of course, it is hard to challenge any of those so long as vegans are perceived as individuals who are, despite their professed ethical beliefs, constantly seeking substitutes for 'real' NHA-derived foodstuffs. One can easily imagine a meat-eater defending any of the four 'N's by simply pointing at vegans consuming 'fake' meats; even vegans, they might suggest, cannot (on some level) live without flesh.

The problem is arguably even more worrisome when it comes to LGF. This is not merely highly-processed plant-matter, but actual animal flesh.[6] As such, it might seem that vegans have lost the argument if they are willing to endorse or permit the production and consumption of LGF. However, this would be a mistake. The best ethical case for dietary veganism, roughly correspondent with the kind of concerns with which I began this paper, builds upon an imperative to step out of a system which necessarily results in the death and suffering of hundreds of billions of sensitive NHAs[7] and to work to limit that death and suffering, not upon a demand to challenge the four 'N's. LGF is potentially an extremely important development in working toward that former imperative, not least because it could mean that the average consumer is able to adopt a diet indistinguishable from a vegan diet in terms of resulting death and suffering but simultaneously indistinguishable from a 'typical' Western diet in terms of what is physically on the plate.[8] To appropriate and adapt an idiom, LGF allows society to have its cow and eat her too. To suggest that this potential for the

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any way. I want to encourage the idea that animal foods are things that should repulse and not attract us.

See https://www.facebook.com/abolitionistapproach/posts/838427262843696, accessed 5 May 2016

[6] Or, minimally, it is materially indistinguishable from animal flesh. Maybe what is necessary for something to *actually* be 'animal flesh' or 'meat' is a particular causal story. This metaphysical question is one worth examining, but is orthogonal to the current enquiry.

[7] Somewhere upwards of 50 billion vertebrate land animals are slaughtered for food every year, and many more marine animals are killed annually. These figures do not include animals killed in pursuit of food, such as male chicks killed at hatcheries.

[8] I am here assuming that parallel scientific developments will allow lab-grown products other than flesh. For example, there have already been moves towards the production of milk without cows (Pandya 2014).

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radical reduction of death and suffering could not outweigh a quite plausible (but certainly not overridingly-important) moral imperative to promote and endorse an accurate understanding of the necessity, normality, niceness and naturalness of NHA products as a part of human diets sounds suspiciously like a kind of moral self-indulgence – a concern for (being seen to be) doing the right thing over and above actually helping others and making the world a better place.

One might object that this is essentially a consequentialist argument: I am claiming that what is, according to the claims with which I began this paper, a very good thing (potentially radically reducing the NHA death and suffering which currently goes in to supporting the dietary choices of many people) can compensate for a somewhat bad thing (potentially reinforcing harmful and/or false views about NHA-derived foods). This is despite the fact that a great many of the most compelling approaches to animal ethics, including animal rights positions, are more deontological than consequentialist. However, this is not a consequentialist argument of the kind to which animal rights theorists will rightly object. This is not an argument that it is right to kill x animals for the sake of saving x+1 animals – such a claim will come up against familiar objections about treating animals as mere means, treating animals as receptacles of value and so on.[9] First, I have uncritically accepted that an endorsement of LGF will necessarily reinforce these troublesome beliefs about the place of NHA-derived products in human diets, but this may not be so. We can imagine a lukewarm acceptance of meat analogues alongside a condemnation of the troublesome beliefs this acceptance might be thought to endorse.[10] Second, it is not clear that failing to condemn these troublesome beliefs actually involves the violation of any rights. It certainly does not violate the key and fundamental negative rights, upon which animal rights theorists typically and understandably focus,[11] against being killed and made to suffer. And, even if we could formulate some kind of (suspiciously *ad hoc*-sounding) right possessed by NHAs not to have

[9] These traditional objections to utilitarianism have been redeployed by animal rights theorists (e.g., Regan 1984) as a challenge to consequentialist approaches to animal ethics – most notably, Singer's (1975) utilitarianism.

[10] This, I think, is an accurate interpretation of Francione's position. See footnote 5. Hanhui Xu tells me that, historically, though the monks at Chinese Buddhist monasteries would eat neither flesh nor flesh analogues, they would serve analogues to non-monks visiting the monastery. This approach – nothing resembling flesh is the best, flesh analogues are acceptable, flesh is not acceptable – seems coherent.

[11] Even those theorists who move beyond these rights, such as Sue Donaldson and Will Kymlicka, *begin* with them (Donaldson and Kymlicka 2013, chap. 2).

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potentially damaging beliefs about the four 'N's reinforced,[12] it would surely be a perverse joke to say that this right should be deployed to stop the production of LGF, at least while we continue to live in a society where the consumption of animal products is the norm. The right would give us good reason to be careful about *the manner* in which we endorse LGF, but should surely not *stop* us from endorsing it.

The animals-in-the-process objection

Despite its potential for radically reducing the death and suffering of NHAs in the pursuit of food, the production of LGF nonetheless requires a minimal number of 'real' NHAs. This is because the process cannot start without the acquisition of NHA cells. In theory, there is no reason that the acquisition of these cells should require the death or suffering of any NHA; provided the 'donor' of the cells is comfortable being handled by humans, they could feasibly be acquired without any displeasure.[13] Animal ethicists may nonetheless remain worried about the treatment of these 'donor' animals before, during and after the acquisition of these cells – concerns will be particularly acute in cases where the NHAs are being used in the pursuit of profit (Francione 2010) or when they are hidden from the public gaze (O'Sullivan 2011), both of which are conceivably the case with LGF. However, it is not hard to imagine, especially given that, plausibly, only a comparatively small number of NHAs would need to be involved *and* given the fact that these 'donations' could be highly infrequent (or even one-

[12] Susan M. Turner proposes that a 'basic right to autonomy' entails a right 'not to be represented as a mere resource' (Turner 2005, pp. 4-5), and thus condemns producing flesh analogues as in so doing 'we are participating in the nonartistic representation of nonhuman animals as mere resources' (Turner 2005, p. 6). I have doubts about her claims. She has an unsophisticated account of animal rights, apparently suggesting that 'nonhuman animals have the same basic rights human ones do', providing we 'avoid the absurd consequences of the more immoderate versions of the animal rights position' (Turner 2005, pp. 4-5). Consequently, she simply assumes that NHAs will possess this particular kind of autonomy right. Even if NHAs do possess the kind of autonomy right she imagines, which is not clear, the remainder of her argument requires greater defence: It is far from clear that, first, this autonomy right grounds a right against representation as a mere resource, and, second, that the creation of analogue flesh violates this latter right.

[13] Cor van der Weele and Clemens Driessen (2013) imagine the possibility of a 'pig in the backyard' model of material acquisition. NHAs kept as companions and recognised as a part of a mixed-species society would be the 'donors', and then flesh would be produced through a kitchen appliance or local factory. There seems to be nothing implausible about this model, and it seems to be consistent with many prominent animal ethics positions. This idea is very close to the vision of at least some active advocates of LGF (Stephens 2013, pp. 169, 174).

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off), that concern for the well-being of the NHAs involved could result in very tight legislation and very close scrutiny, meaning that we could guarantee the well-being of the 'donor' animals at all stages.

A related but separate objection comes from the fact that the development of LGF has *already* seen the infliction of suffering and death upon a number of NHAs, at least insofar as the 'donor' animals were not offered a full life of respectful co-membership in a mixed human/NHA society.[14] G. Owen Schaefer and Julian Savulescu, in response, suggest that 'this is fair enough, but speaks more to the faults of our society as a whole ... than the particular problems of [LGF]' (Schaefer and Savulescu 2014, p. 194). Furthermore, familiar considerations about the ethics of ill-gotten gains come to the forefront; our opposition to particular research practices does not mean that we are forced to forgo the benefits of this research once it has taken place. The history of science contains much brutality, environmental destruction and discrimination. Scientific research continues to involve the infliction of considerable suffering on NHAs. We may object to any or all of these, but this does not mean that we should seek to turn back the clock to a time when we did not have scientific knowledge. We may have some obligation to *make amends* for mistreatment, but that surely cannot consist in (for instance) destroying or refusing to make use of the scientific advancements which have already been made. If it were, everyone, *including those to whom we should be making amends* – especially in the case of LGF – would lose out.

A final variation of the animals-in-the-process objection will be raised by those 'abolitionists' who reject, on a fundamental level, all *use* of NHAs, arguing that this is inconsistent with treating these NHAs with full respect.[15] I do concede that people with this viewpoint will have reason to object to the use of NHA 'donors' for the gathering of cells for the production of LGF. However, I suggest that abolitionists are mistaken in rejecting any use

[14] In one study (Stephens 2013), for example, interviewed scientists stressed that the use of fetal bovine serum as a growth culture for the cells was something which would be overcome in future developments. This was framed as a problem with the technology/research at this time insofar as it conflicted with the potential goals of animal liberation.

[15] This view is most commonly associated with Gary Francione (2010). It is worth noting that the position should not be confused, first, with the unrelated 'Abolitionist Project' (see http://www.hedweb.com/abolitionist-project/index.html, accessed 5 May 2016) of the vegan and transhumanist philosopher David Pearce, which is about the abolition of suffering, or, second, the looser sense of 'abolitionism' as a fundamental acceptance of certain animal rights, and so the endorsement of the abolition of animal industry. It is in this latter sense, for example, that Donaldson and Kymlicka are sometimes described as abolitionist (see Bailey 2013, p. 725; Garner 2013, p. 102), but they would not make the objection I am discussing.

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as fundamentally inconsistent with respect. This is well-illustrated by Katherine Wayne (2013), who presents a series of thought experiments showing that the use of dependent beings (in her example, these beings are adult humans with learning difficulties, but the point is to reveal by analogy something of interest about our relationships with NHAs) is not inconsistent with a fully respectful relationship with those beings. Imagine that you run a home for adults with learning difficulties. Also imagine that, for some reason, the hair of these adults grows at 20 times the normal rate. Now assume that we

> know that cutting and packaging [these individuals'] hair (the timing of which will vary according to the expressed hair length preferences) will help the home turn a profit if they sell it to wig and extension manufacturers. Assume that making this money will make the caregivers' lives easier by allowing them to purchase instruments of convenience, such as cleaning tools, or a family van. The money will also make the individuals with disabilities' lives better by facilitating the caregivers' provision of optimal stimulation[.] (Wayne 2013, p. 167)

Given all of this, would we be displaying a fundamental disrespect for these adults with learning difficulties if we cut and sold their hair? Not necessarily, Wayne argues; indeed, to *fail* to do so might be morally suboptimal, given that it impoverishes the relationship between the dependent adults and the caregivers and makes life materially worse for both parties. This is despite the fact that we would be 'using' these individuals. Wayne offers other, similar, thought experiments defending the consumption of NHA products (the analogy points towards egg consumption), the use of NHA labour and the institution of companionship. To be clear, the point is certainly not that the real-world uses of NHAs are unproblematic,[16] but that use is not *inherently* inconsistent with respect, as abolitionists hold. If use is not inherently disrespectful, the question becomes whether a *particular* use is disrespectful. Because the acquisition of cells from 'donor' NHAs could, in principle, be done completely painlessly and as part of routine (and mutually enjoyable) physical contact, and especially given that the use can be conceived of as benefitting (or be structured to benefit) the NHA, it

[16] Wayne is herself a vegan – though not in the 'principled' (abolitionist) sense – who endorses something close to Donaldson and Kymlicka's picture of a respectful mixed society.

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seems plausible that the use of NHAs for the acquisition of donor cells could be done in a wholly respectful way.[17]

The false hierarchy objection

The final objection to LGF that I will consider is that it serves to affirm a false and speciesist moral hierarchy between humans and NHAs, or at least between those animals who are 'for eating' and those who are not. The idea is that in choosing to eat NHA flesh, even if we do so in a way that is consistent with their interests in not being made to suffer and not being killed, we affirm a kind of *pathos of distance*[18] between 'us' and 'them'; a kind of ranked hierarchy with humans above and NHAs below. Sue Donaldson and Will Kymlicka (2013, p. 152) express this concern in terms of *dignity*, and this, too, can tie to the idea of a ranked hierarchy: Those of a higher status possess (some level of) dignity while those of a lower status do not (Waldron 2012). Even if we do not straightforwardly harm any NHAs in the process, in eating NHA flesh we throw up a wall, we create an *us* and *them*, we mark ourselves off as exceptional, more valuable, more dignified. Without doubt, this should be of concern to those who accept the claims with which I began this paper: If the claims are true, we should be concerned with dismantling the myths of human exceptionalism, the idea of the incommensurably-low value of NHAs when contrasted with humans and the idea of humans as uniquely dignified. We should not bite the bullet and accept a distance between humans and NHAs, but this leaves an apparent dilemma: On the one hand, we should want to embrace the technological promise offered by LGF, while, on the other, we should not want this support to affirm, reify or contribute to false, speciesist hierarchies.

There is, however, a third option. It is possible to promote the production of LGF *without* endorsing us-and-them hierarchies when we recognise that, just as we could produce the flesh of NHAs without the infliction of suffering or death on any individual animals, so we could produce the flesh of *humans* without the infliction of suffering or death on any individual (human) animals. This point has not been overlooked in the popular and academic

[17] Again, the 'pig in the backyard' model (see footnote 13) might be a good example of how this would work.

[18] The phrase is Nietzsche's, and I use it quite deliberately: it carries with it all of the connotations of the sneering, uncaring beings of a 'higher' rank looking down upon the worthless (human in Nietzsche, NHA here) objects of the lower ranks, who exist only for their use (see Nietzsche 2000 [1886], § 257; Nietzsche 2000 [1887], § I:2.)

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literature on LGF. It is acknowledged by some defenders of LGF as a possible problem with the practice (Hopkins and Dacey 2008, p. 586; Schaefer and Savulescu 2014, pp. 197-9; Schneider 2013), and is also seen as a (minor) concern in public reactions to LGF (Laestadius and Caldwell 2015; Laestadius 2015).[19] Donaldson and Kymlicka (2013, p. 152), meanwhile, simply take for granted that the production of human flesh would not be permitted in a society in which LGF was produced. Contrary to this trend, I suggest that the production of lab-grown human flesh *should* be permitted alongside the production of nonhuman flesh. To be clear, this question arises only because we *already* have reason to support LGF. If we accept the moral claims with which I began this paper, we should, first and foremost, be concerned with eliminating the death and suffering inherent in the production of NHA-derived foodstuffs. This would be possible through universal veganism, but the adoption of LGF technologies represents another possible path to this goal. If we adopt this latter path, we can then ask how we can prevent the new institutions this will entail from participating in or perpetuating speciesist hierarchies – the answer is that we do not ban the production of any kind of flesh. Nothing is off-limits: Human, dog, panda, chicken (mammoth?) – to say otherwise breaks animal life into two, and creates (or continues to affirm) a pathos of distance.

This conclusion may be seen to be problematic from the perspective of non-ideal theory, at least insofar as the possibility of (even victimless) cannibalism is likely to be strongly resisted.[20] A key component of non-ideal theory is *feasibility*. This means that if the achievement of a world in which both human and nonhuman LGF was permissible would be more difficult than the achievement of a world in which nonhuman-but-not-human LGF was permissible, then we would have a *pro tanto* reason, grounded in non-ideal theory, to favour the latter over the former. However, non-ideal theory is a *process*, and an important feature (in addition to feasibility) of non-ideal approaches is their focus upon the *most egregious of injustices*.[21] As such, and given the egregiousness of the injustice of the infliction of death and suffering upon NHAs when compared with the injustice of the creation of an artificial

[19] There are exceptions to this general trend. Carolyn S. Mattick and Braden R. Allenby (2012), for instance, seem mostly untroubled by the prospect of cannibalism.
[20] I thank an anonymous reviewer for this point.
[21] This, in my view, is underdeveloped in much literature on non-ideal theory, but exploring this claim will take me off-topic. The idea is present in Rawls, for whom courses of action in non-ideal theory must be morally permissible, and for whom 'the moral permissibility of a course of action … is a function of the degree to which it removes the most grievous or most urgent injustice, the one that departs the most from ideal theory' (Garner 2013, p. 13).

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pathos of distance, it is plausible that full support of the permissibility of victimless cannibalism – of which I here lay the groundwork – should come only once LGF has become established. To be clear, LGF with nonhuman-but-not-human flesh is clearly preferable to the *status quo*, as it removes certain major injustices faced by NHAs, but LGF with *both* human and nonhuman flesh would be preferable to either, as it removes these major injustices *and* a further injustice. As such, I take it that support for victimless cannibalism can be a part of non-ideal theory, even if – as is plausible – it is part of a *more-ideal* non-ideal theory than is nonhuman-but-not-human LGF.

There may even be other reasons to support the possibility of victimless cannibalism beyond the relatively simple concern for designing the new institution so that it does not participate in traditional speciesist hierarchies. Libertarians, too, may endorse the permissibility of the creation and use of human flesh: Producing flesh in the lab does not seem to violate anyone's basic rights, and so (the libertarian would say) the state has no business banning it, no matter how offensive some may find the idea. Gourmands and others who stress particular kinds of value in food might even see a *positive* value in the creation and subsequent consumption of human flesh, if they hold that experiencing a diverse array of foodstuffs – including, or perhaps especially, taboo foodstuffs – is valuable. This suggests a possible shared goal and uneasy alliance between two groups who have previously found themselves at odds: Vegans, who often believe that people should not be permitted to eat NHA-derived products, and gourmands and libertarians, who typically believe that they should.[22] It is even plausible that those in the vegan movement would have a positive reason to support the possibility of cannibalism: LGF would allow for the victimless participation in a symbolic statement about humans as animals and the rejection of speciesist hierarchies – the consumption or use of human flesh. Whether there would be a more practical value (for example, if the symbolic statement would or could serve to convince others) is a question for social scientists, and one worth asking. If the symbolic consumption of human flesh would turn people away from respectful treatment of NHAs then we may have good moral reason not to participate in the consumption of human flesh, even if we would nonetheless be

[22] Here, I am generalising. While many libertarian political philosophers have written disparagingly about animal ethics/animal rights positions and in support of flesh-consumption (e.g., Lomasky 2013; Machan 2004; Narveson 1987), Robert Nozick was at least somewhat open to strong ethical obligations towards NHAs (Milburn forthcoming-a), and some philosophers have deployed right libertarian tools in defence of NHAs or as a solution to problems in animal ethics (e.g. Ebert and Machan 2012; Milburn 2014).

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permitted to do so. While I can see little reason to say that anyone would have an *obligation* to consume human flesh, it is at least plausible that those concerned with challenging meat-eating have a second reason to support the institution of LGF beyond its potential to end the suffering and death in 'animal agriculture'.

My argument may strike some as deeply objectionable. Nonetheless, I hold that it is valid: Assuming the truth of the claims with which I began the paper, we should want to see NHA suffering and death radically reduced. This is possible through the development of LGF, but we should not want to see LGF reaffirm false and harmful hierarchies of value between humans and 'animals'. As such, we should support the permissibility of the production and consumption of human flesh.[23] For the remainder of this paper, I will offer some arguments in defence of this victimless form of cannibalism.

In defence of cannibalism?

When considered dispassionately, it is odd that someone might be comfortable with the thought of the consumption of NHA flesh produced through means which entail high levels of suffering and death, but deeply uneasy about the consumption of human flesh produced through means wholly respectful to individuals. Though most people – including most philosophers – are likely appalled at the idea of cannibalism, it is surprisingly difficult to find any explicit arguments against it; as observed by Schaefer and Savulescu (2014, p. 197), it is generally simply assumed to be wrong. J. Jeremy Wisnewski (2014) argues that, though there are arguments against cannibalism in all major ethical traditions, all face conceptual problems or possible counter-examples. Elsewhere, Wisnewski (2004) argues that not only is the moral prohibition of cannibalism (in rational terms) poorly founded but (on Kantian grounds, at least) cannibalism is sometimes permissible. Nonetheless, he suggests, we may have good nonrational, *sentimental* grounds for opposing cannibalism (see further Diamond 2005).

[23] This need not be human consumption – perhaps it could be fed to NHAs. In the conclusion of this paper, I contrast a LGF-consuming society with a vegan society; in so doing, I create a false dichotomy. We may reasonably desire the creation of LGF in a society in which every human is a vegan; we may need to feed flesh to our companions (see Milburn 2015, forthcoming-b), or LGF may provide a useful practical tool when it comes to aiding free-living NHAs (see further Horta 2013).

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Leon Kass (1997) offers a spirited defence of these nonrational grounds in asking us to call upon the 'wisdom of repugnance'. There are, he claims, a number of things which evoke a particularly powerful disgust reaction, and ignoring or attempting to discredit this disgust is deeply foolish; even, perhaps, attempting to rationally articulate our opposition makes a mistake:

> Can anyone really give an argument fully adequate to the horror which is father-daughter incest (even with consent), or having sex with animals, or mutilating a corpse, or eating human flesh, or even just (just!) raping or murdering another human being? (Kass 1997, p. 20)

Martha Nussbaum (2004, p. 80), criticising Kass's views, draws attention to the curiosity of this list; rape and murder necessarily, and acts of father-daughter incest, bestiality and cannibalism typically,[24] seem to involve straightforward (Millian) harms. Corpse interference, of which cannibalism can be a 'gruesome variant' (Nussbaum 2004, p. 80), does raise normative questions, but these are moral issues which can be articulated and understood; surely it is not a topic about which no rational argument can be offered. To simply say that a disgust reaction most have towards these practices is enough to condemn them seems weak.

Here, perhaps, it will be useful to disentangle several different forms of cannibalism. The most obvious examples, I think, come from *violence* scenarios and *corpse interference* scenarios, with *waste* scenarios being a third category. The distinction comes from whether the flesh is acquired from a human deliberately killed/mutilated for the purposes of cannibalism (violence), a corpse (corpse interference) or a part of the body which was removed for some reason unrelated to cannibalism (waste). In violence cases, someone inflicts violence upon A *so that* someone may eat part of A's body. Literary stereotypes bring to mind *non-consensual violence* cases; a real-world example is that of Tom Dudley and Edwin Stephens, shipwrecked sailors who, in 1884, killed and ate the comatose Richard Parker. *Consensual violence* cases are also possible; Armin Meiwes is a German man who notoriously killed and ate Bernd Brandes, supposedly with Brandes's permission. It might be

[24] For thoughtful analyses of incest and bestiality respectively, see Sebo 2006 and Milligan 2011.

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held that the case stretches the limits of what one might consent to, but *consensual waste* cases are likely less controversial: If A is having part of her body removed for some reason, it is conceivable that she could consent to it being consumed by B (in a *non-consensual waste* case, B would consume A's body part without permission). Possibilities like this are, in a sense, already practiced; some women, after giving birth, permit others to cook and eat their placentas. *Non-consensual corpse interference* brings to mind the famous cases of the Donnor Party (American pioneers who endured a harsh winter with limited supplies in 1846-7) and the Andes flight disaster (a 1972 plane crash). *Consensual corpse interference* cases entail someone giving consent for their corpse to be cannibalised upon their death.

In terms of ethical evaluation, all cannibalism cases can be questioned on the grounds of human health, but to condemn or ban cannibalism on these grounds strikes me as the worst kind of paternalism.[25] Non-consensual violence cases can be censured simply for their violence, though mitigating circumstances (such as necessity) can possibly lessen the *pro tanto* wrongness. Worries about the wrongness of interference with corpses also loom in many violence or corpse-interference cases. (Arguably, they are also a problem in waste cases, given that the 'waste' product is, in a sense, part of a corpse, though the person from which it is taken is likely still living.) A full analysis of the ethics of interfering with corpses is beyond the scope of the present exploration, but the problem can be circumvented with the observation that LGF does not seem to be a 'corpse' in the morally pertinent sense: It does not have a significant historical relationship with a living person, nor does it have the same sentimental or spiritual value to those who had some relationship (or shared cultural identity[26]) with the dead person. Problems tied to consent also do not seem to be present in the LGF case; while someone arguably cannot consent to being killed, it is a stretch to say that they cannot consent to their cells being used to grow flesh. LGF cannibalism, then, does not fit easily into the taxonomy of cannibalism here presented,[27] and does not seem

[25] Indeed, some may object to artificially growing NHA flesh on the grounds that a diet without meat – no matter its source – is healthier (with thanks to an anonymous reviewer for this point). This, too, strikes me as unduly paternalistic.

[26] The importance of cultural identity to the treatment of corpses should be clear. 'Appropriate' modes of treatment for corpses vary culturally from burial to open-air cremation to being fed to scavenging birds. Cases of culturally-appropriate cannibalism are often asserted, but examples are lacking. One verifiable but complex case is the Aghori – a deeply atypical sect of Saivite Hindus – who engage in the ritualistic consumption of partially-cremated corpses.

[27] Interestingly, it does not fit into Wisnewski's (2014) taxonomy, either; it is not is not 'emergency' cannibalism, 'ritualistic' cannibalism or 'fetish' cannibalism.

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susceptible to the ethical objections offered. Perhaps the rational reasons we may have to condemn some other kinds of cannibalism (but see Wisnewski 2004, 2012) are not sufficient to condemn LGF cannibalism.

Kass might respond simply that this is so much the worse for our 'rational reasons'. Repugnance, he tells us, though it is 'not an argument', warns us 'not to transgress what is unspeakably profound' (Kass 1997, p. 20). So even if we might have rational arguments for the permissibility of cannibalism, we should resist them. I do not deny that we should take notice of deep-seated moral intuitions and feelings of disgust when faced with ethical problems, and it is surely true that many share deep-seated moral intuitions and feelings of disgust at the thought of cannibalism, even victimless cannibalism.[28] One solution here would be to simply say that these feelings of disgust and moral outrage should give way to either the greater benefit (both to those NHAs no longer implicitly denigrated or 'othered' and to those humans who, for whatever reason, want to eat human flesh) or the better argument in favour of permitting the consumption of human flesh. These responses, respectively, may be convincing to those of a consequentialist or rationalist inclination. Another approach, likely amenable to those who put high-stock in moral intuitions, would be to say that, even though we do have strong intuitions against cannibalism, these particular intuitions are surely not the kinds of *primary* ethical truths upon which we should be building ethical systems. By contrast, the arguments which have led up to this point could be framed around much more central intuitions about the badness of suffering and the merits of treating like cases alike. Kass would decry these arguments as failing to challenge repugnance's wisdom: 'The burden of moral argument', he says, 'must fall entirely on those who want to declare the widespread repugnances of humankind to be mere timidity or superstition' (Kass 1997, p. 21). However, in addition to the arguments offered above, I hold that we do have a good reason to challenge the 'wisdom' of the repugnance humans feel towards cannibalism. Specifically, I believe that the intuition is vulnerable to an evolutionary debunking argument.

Evolutionary debunking arguments are used in normative ethics to undermine certain ethical intuitions. Very simply, the thought is that *if* we have a compelling reason to believe that we hold a particular intuition because holding said intuition serves to increase our

[28] According to Patrick D. Hopkins, some 'purist vegans' (Hopkins 2015, p. 268) who oppose LGF play on this disgust reaction by raising the question of cannibalism in the first place; he is correct that this move has effectiveness because of 'primal evolved disgust responses' (Hopkins 2015, p. 269).

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survival chances, *then* the intuition is partially undermined (at least when compared to other intuitions) as one upon which to build ethical arguments. This is because evolution drives the development of traits which increase the likelihood of gene replication, not the development of good morality. It is my contention that our intuitions against cannibalism are a particularly good example of intuitions vulnerable to evolutionary debunking arguments. Cannibalism would traditionally have involved interfering with human corpses, something which puts the cannibal at significant risk (greater than that associated with scavenging from NHA corpses[29]) of catching diseases. Scavenging from human corpses also likely puts the cannibal at risk of ostracism (or worse) from human society: Others may resent the cannibal for a perceived slight on the deceased, fear her due to a perceived difference, be disgusted by her due to their own evolved tendencies, or fear the spread of disease (rationally or instinctively). All of these could lead to ostracism, meaning – given that humans thrive with others – that evolution will disfavour cannibalism. If the cannibal instead procures human flesh by inflicting violence upon living humans, she faces many of the same health risks but additionally faces violence or ostracism in defence or retaliation.

We have, then, a highly plausible evolutionary story for our moral intuitions and feelings of disgust concerning cannibalism. To an extent, our intuitions are vindicated:[30] Cannibalism typically (perhaps even *simpliciter*) is bad for our health, and typically would lead to ostracism. However, we have a dearth of convincing rational arguments against cannibalism in-and-of-itself. Though we have good moral reasons to object to typical instances of cannibalism, these do not extend to LGF cannibalism. Furthermore, we have, I have suggested, good reasons grounded in animal ethics (and I have gestured towards other reasons) to support the permissibility of this limited form of cannibalism. Given all of this, I hold that our intuitions against cannibalism are vulnerable to evolutionary debunking arguments, and we should allow our feelings of disgust give way to good ethical reasoning.

Concluding remarks

[29] The cannibal will likely be susceptible to diseases which afflicted the owner of the corpse, the corpse – as humans are apex predators – will have accumulated toxins, and cannibalism *simpliciter* is associated with particular afflictions.

[30] I thank Jan Deckers for drawing my attention to this point.

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Those who support the wrongness of killing or inflicting suffering upon NHAs have good reason to support not only the permissibility of lab-grown NHA flesh, but also the production of lab-grown human flesh – the former because it allows us to move closer to a society in which no NHA is forced to suffer and die for the trivial pleasures of humans, and the latter because such individuals should not want our pursuit of this society to involve continued support for us-and-them hierarchies. Animal ethicists, then, have reason to look forward to, and support the development of, a society in which LGF is regularly consumed. I am compelled to offer two important caveats to this conclusion. First, this society may or may not be preferable to one in which humans consume only plant products;[31] I have made no claim either way. (To put this point another way, I have made no claim about whether LGF should be part of *ideal* political theorising.) Such a society, however, would certainly be preferable – assuming the truth of my starting claims – to the current world in which sensitive NHAs are made to suffer and die for human food. Given that veganism is adopted by only a small percentage of the population in even the most progressive of nations, and worldwide flesh consumption (due mostly to the increasing affluence of certain non-Western societies) is actually rising, we have reason to worry that a vegan world could be a long way away. Second, the potential of a LGF-consuming society gives us no reason to believe – again assuming acceptance of my starting claims – that the consumption of NHA-derived products is acceptable in our current society, or to believe that encouraging others to adopt veganism is somehow a waste of time or morally suspect. To be candid, I *do* believe the claims with which I started this paper, and consequently hold that we as individuals should be vegans, and should encourage others to be vegans. Despite these caveats, and though I do remain ever-hopeful for the development of a vegan world, I conclude that animal ethicists should be prepared to explore and ultimately, but cautiously, endorse the production of LGF.

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[31] This is a false dichotomy, and we may actually have reason to pursue a society in which all humans are vegan but we nonetheless produce LGF. See footnote 23.

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