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Penultimate draft

Fish

Introduction

Ernest Hemingway in *The Old Man and the Sea* describes the prolonged struggle of an ageing fisherman as he reels in a giant marlin. Eventually, he succeeds, and straps the fish to the side of his small boat. There it attracts the attention of sharks, who slowly eat away at it on the return journey. The old man futilely tries to drive the sharks away, but in the end is left, exhausted and depressed, with only a skeleton. The story has elements of a classical tragedy, presenting the fisherman's struggles as a heroic, if doomed, battle against forces—the fish, the sea, the sharks, and his own age—that will inevitably outmatch him.

Although most readers of this chapter will not have relied on fishing as a necessary source of either income or food, many will have spent early mornings and passed pleasant evenings at a bucolic lake or on a boat at sea, eagerly awaiting the day's first tug on a fishing line. Others will have seen a marlin itself serving as a kitschy backdrop at a kitschy beachfront bar. And nearly all readers will have at least once eaten fish.

Amongst those who exclude meat gradually from their diets for ethical reasons, fish flesh and fish byproducts are often the last to go. Fish, and fishing, hold a more benign place in our collective conscience than do meat and hunting. Land animals and birds are stalked, often with a cacophony of barking dogs, and shot, often not cleanly enough to ensure a quick or painless death. Dragged out of the forest or spilling blood into a field coat's game pockets, the death of terrestrial and avian animals naturally arouses the sympathies of many. The story of *The Old Man and the Sea*, retold as a bowhunting expedition with a Bambi-like doe as its quarry might excite rather less sympathy for the hunter and rather more for the deer.

In this chapter we explore the question of whether there are good grounds for treating fish as a general category of animals differently from terrestrial and avian animals with respect to the degree of moral concern that should be allotted to them, whether our relative indifference to the fate of the marlin has some moral grounding.

We begin our study by briefly reviewing some of the main current thinking on the moral

permissibility of eating non-human animals, although we do not attempt to break new ground. Next, we examine what is potentially ethically different about eating fish from eating land and avian animals with a discussion of what is known about fish psychology and intelligence. We set out three distinctive and ethically salient features of the harvesting and consumption of fish. The first is that they are to a greater degree than any other major animal-based food source, wild caught. The second is that their wild capture provides both a social and economic foundation for many communities in both the developed and developing world. And the third is that it is particularly difficult as an individual to effect changes in how many fish are caught and killed through one's own consumption choices. We argue that the first and second features raise some distinctive ethical challenges, but that neither of these considerations militate against claims that the harvesting and consumption of fish is *prima facie* morally impermissible. We conclude with a discussion of how the third problem is only a more challenging case of a general set of problems that arise from the signaling inefficiency of our purchasing and consumption decisions.

Some General Comments on the Permissibility of Eating Animals

Whether it is morally permissible to eat fish depends partially on whether—and then under what circumstances—it is morally permissible to eat non-human animals in general. Our chapter does not aim to contribute anything new to the general discussion about eating animals, but it will be helpful to say something briefly about the matter to set the stage for the specific discussion of fish.

Many people have the intuition that there is something of special ethical significance about being human. This intuition might be understood in one of two ways. The first is that the mere fact that we are human has special moral significance. The second is that features possessed, perhaps uniquely, by humans give us special moral significance.

The first way of understanding the intuition is an instance of *speciesism*, which is the view that membership in a particular species is inherently ethically significant. In recent years, serious doubts have been cast on speciesism as a basis for conferring separate moral status on human and non-human animals.

There are many ways of arguing against speciesism.[1] We shall just offer one of them here. Consider two individuals falling into distinct biological groups. Let us say that one belongs to a human

[1]See Cavalieri (2001) for a more detailed discussion of this view.

population, the genes of which dispose individuals to produce low quantities of melanin in their skin, and the other of whom belongs to a human population, the genes of which dispose individuals to produce high quantities of melanin in their skin.

We can imagine that these individuals live lives that are, as nearly as possible, identical with respect to character, career choice, and dispositions concerning how to treat themselves and others. We may also assume that they hold similar positions in their communities, have similar relationships to their (same sized and aged) families, and so on.

It is difficult to see what could possibly justify treating either of these two individuals differently either as moral actors or as bearers of other moral statuses in identical circumstances. By stipulation they have the same character, would act and react the same way, and play comparable roles in the lives of others. The only difference between them is their membership in separate human populations with different genetic dispositions for the production of melanin in the skin. Claiming there is an ethical difference between them on that basis is absurd. We might pejoratively call someone who discriminated on that view a 'melaninist'. *Mutatis mutandis*, we could retell this story about individuals who only differed with respect to biological species.[2] Why it would be any less absurd to discriminate on the basis of species than it is on the basis of the melanin levels of different individual's skin?

This brings us to the second way of understanding of the intuition that there is something of special ethical significance about humans, i.e. that we possess certain features that confer on us special ethical significance.

Defenders and opponents of the view that non-human animals deserve (more) serious ethical consideration most plausibly are taken to disagree about which features matter for making an individual animal, human or non-human, an object of moral concern. They may also disagree about empirical judgements concerning which animals possess which features.

Other chapters in this volume address[3] the question of which features matter with respect to the moral status of non-human animals. We take the range of possible features to include at least: possessing intelligence, self-awareness, an inner emotional life, social connections, emotional attachment to others, the capacity to feel pain, and the ability to plan for the future. We mean to take

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[2]This is a common theme in science fiction films, one developed sympathetically towards the replicants in *Blade Runner*.

[3]Note to the editors: insert relevant cross references here. (Comstock, Fischer, McPherson)

no stand on which of these features might matter, but we note in passing that the more rarified a feature one isolates as morally relevant, the more work one leaves to be done in explaining why it is impermissible to treat human beings who individually lack that feature as one advocates treating non-human animals lacking that same feature.[4]

With respect to the empirical questions, in the next section, we offer a brief summary of what is currently known, or at least believed, about the relevant aspects of fish psychology. If there are reasons for according a different moral status to fish than there are to some other animals, then it cannot be on the basis of taxa. Rather it has to be due to some difference in what various fish are like as individual creatures.

What Science Believes about Fish Psychology and Intelligence[5]

Kurt Cobain once assured a generation that it was okay to eat fish, since they don't have any feelings.[6] As it turns out, discerning whether or not fish have feelings has proved rather challenging, for three main reasons: first, the environments in which fish live are not ones we can easily control or even interact with, making experimental design more difficult than it is on land. Second, fishes' behavior is very different from our own, making it significantly more difficult to code that behavior and draw well-informed conclusions about what sorts of mechanisms stand behind it. Third, and compounding this second issue, fish's neurophysiology is rather different from both our own and that of most other land animals, making it difficult to infer from even a combination of behavioral and neurological evidence to any firm conclusions about fish psychology. Thankfully, fish scientists remain undeterred by such challenges and have in fact managed to make some real progress on the questions of whether fish can think and feel, and what they might be able to think and feel about.

Perhaps the most striking recent result is evidence that giant manta rays are capable of passing the so-called 'Mirror Self-Recognition' test, something that is generally held up as the gold-standard for

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[4]See McMahan (1996) for a discussion of these difficulties and one possible solution.

[5]We would like to thank Alexander Szorkovszsky for his invaluable help in navigating the literature on fish psychology and intelligence. Any errors in interpretation or literature selection are, however, entirely our own.

[6]Nirvana, ``Something in the Way.''

demonstrating self-awareness.[7] In essence, when exposed to mirrors manta rays exhibit a range of behaviors ill-explained by either the simple presence of a foreign object or the presence of an image they are mistaking for another conspecific. These behaviors, which ethologists tend to call 'contingency checking' and 'self-directed', are akin to those exhibited by dolphins in similar settings.

It is worth noting that giant manta rays have the largest and most foliated brains of any known fish species. So even if this evidence is pointing in the right direction, we are not in a position extrapolate that many other fish species are likely to demonstrate significant degree of self-awareness. On the other hand, these results do offer reason to reject the thought that there is anything inherent in the neurophysiology of fish that prevents them from exhibiting a significant degree of intelligence and even self-awareness.

Whether fish feel pain has received perhaps the most sustained scientific attention of any question regarding the mental capacities of fish.[8] What is beyond doubt is that fish possess 'nociceptors', or nerve fibers responsive to noxious stimuli.[9] The problem is that not all stimuli of nociceptors ought to be characterized as *pain*. Certain types of nerve blockers, for instance, are administered specifically in order to prevent nociceptor firings from reaching the brain during surgery. This will not prevent nociceptor firing at the local level, but it plausibly does prevent there being any pain associated with the relevant bodily damage, at least during the course of the surgery itself.

Some have suggested that fish are essentially always in a state equivalent to a human being under the influence of nerve blockers.[10] At least three different, complementary arguments are offered to this end: first, it is argued that fish lack consciousness and that, since it is not felt, unconscious pain is not pain at all.[11] The thought seems to be that this sort of neural architecture is not sufficiently complex or developed

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[7]Cf. Ari & D'Agostino (2016). For more general discussion of the Mirror Self-Recognition test, see Gallup (1970), Platek and Levin (2004), and Prior et al. (2008).

[8]For recent, partisan reviews of the state of the literature, see Rose et al. (2014), Sneddon (2011), and Braithwaithe (2010). See also Allen (2013).

[9]The ratios of the different sorts of receptors are rather different than what is commonly found in land mammals, however. Specifically, A-fibers are relatively common in teleost fish, whereas the C-fibers common to land mammals are found in much smaller numbers (cf. Roques et al. 2010).

[10]Cf. Rose (2002, 2007), Rose et al. (2014), Key (2016).

[11]We would note in passing that this intermediate premise is controversial within philosophy. See, for

enough to underwrite pain perception. Second, it is noted that the neural anatomy of fish differs substantially from that of human beings, which are taken to be paradigm pain-feelers. Of particular note is the fact that the fish pallium is non-laminated and only diffusely connected.[12] Third, a number of specific objections are levelled at the methodology of the numerous extant studies purporting to show that fish demonstrate complex behavioral reactions to bodily harm, reactions which are best explained by appealing to a feeling of pain rather than a low-level nervous response to pure nociception.

We are hardly the best qualified persons to cast judgment on the validity of the data collection methods and statistical analyses to be found in studies on fish pain, nor on the particulars of how best to code fish behavior, etc. To be clear, some of the particular methodological issues to which fish pain-skeptics have pointed to do indeed strike us as important.[13] Nonetheless, it seems to us that there is a significant body of evidence suggesting that fish are capable of exhibiting fairly complex behavioral responses to bodily harm, responses which are plausibly best explained by the posit that a central processing system is responding to information it is gathering about the state of its body.

Whether a central processing system so responding should be considered a conscious system responding to pain is a difficult question, and one that we can hardly hope to settle here. We don't put much stock in the neurophysiological evidence mustered by fish pain-skeptics, because it primarily relies on differences between human and fish neurology to make its point; we take it as a fairly settled matter that consciousness, whatever it is, is multiply realizable.[14] Thus, simply pointing out that fishes' neuro-anatomy is different from our own should not in itself make us doubt that they can feel pain; after all, manta rays are strikingly different from us anatomically, and yet they seem capable of passing the Mirror Self-

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instance, Palmer (1975) This argument is ineffective in the present context, however: if consciousness is required to feel pain, and if we have good evidence that fish feel pain, then we have good reason to conclude that fish are conscious. Granted, we would have reason to reject one of the premises if the conclusion were known to be false—but this is simply assumed rather than argued for by proponents of this sort of argument.

[12]Cf. Giassi et al. (2012).

[13]On the other hand, the demand that a clear line be drawn between reflexive and non-reflexive behavior—and that an operational definition be provided such that this line can be tested for—strikes us as unwarranted (cf. Rose et al. 2014). We are highly skeptical that any such line or definition can ever be provided.

[14]Cf. Block & Fodor (1972).

Recognition test.

What other sorts of arguments might there be either for or against fish consciousness? Arguments in favor of fish consciousness have tended to appeal to certain fish species' capacities to learn complex behaviors, to respond to their surroundings in complex ways, and to integrate information from various areas of the brain to initiate avoidance behaviors.[15] Arguments against tend to note that complex behaviors can be exhibited by sleepwalkers, among others, and that fish seem to exhibit some of these same behaviors even when their frontal cortexes are removed.[16]

Again, we cannot hope to settle here the issue of what sorts of things, beyond verbal, first-person reports of which non-human animals are for the most part incapable, constitute our best evidence for attributions of consciousness. We would note, however, that fish demonstrate a remarkable range of complex behaviors commonly associated with a high degree of intelligence: not just timed-responses to feeding routines or the ability to quickly spatially map a location for subsequent recall, but also kin-recognition, the recognition of individual conspecifics and non-conspecifics and differentiated behavior towards each, tool-use, social reconciliation behavior, social learning, and even numeracy.[17] Certain fish species even demonstrate complex planning behaviors: cleaner wrasse, who make a living by removing parasites and dead skin from 'client' fish can prioritize fish in a queue based on whether these fish are 'regulars' who are unlikely to go elsewhere or 'transients' who may lose patience and look for a competitor if left to wait.[18]

While none of this behavior is by any means a dispositive of consciousness, cumulatively it strikes us as lending strong support for the claim that, while certainly not realized in all species, the hardware of fish neuro-anatomy is capable of exhibiting a high degree of the sorts of intelligent behavior standardly associated with consciousness. Thus, it lends some credence to the hypothesis that at least certain fish are, indeed, conscious beings.

Contemporary science offers us ample reason to think that fish are capable of exhibiting a high degree of intelligence. Whether the same general body of evidence supports the claim that these fish are also

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[15]Cf. Huntingford et al. (2006), Braithwaithe and Boulcott (2007), and Braithwaithe (2010).]

[16]Cf. Rose et al. (2014) and, on the latter point, Overmier & Papini (1986).

[17]Cf. Brown (2015)

[18]Cf. Bshary & Wurth (2001).

conscious or that they can feel pain is a more controversial matter. But there is at least some reason to believe that the answer in both cases is "yes". The evidence at present is far from perfect, and vast neurophysiological differences do indeed obtain between humans and fish. That might lead us to resist thinking of fish as capable of conscious thought on the basis of these neurophysiological differences. But this resistance looks unjustified. The behavioral evidence strongly suggests that at least some fish are remarkably intelligent creatures. If such intelligence is associated with consciousness along one phylogenetic branch, we can see no principled reason to treat such displays of intelligence differently with regard to another.

The evidence we have strongly supports the hypothesis that many species of fish are intelligent, highly social creatures. That, in turn, lends limited support to the hypothesis that many species of fish are both conscious and capable of feeling pain. So while the matter is by no means settled, it looks like there is some scientific support for the claim that, whatever moral difference makers there are between fish and human beings, they cannot simply be assumed to be: exhibiting a significant degree of intelligence, sociality, consciousness, or the ability to plan. Nor can it be assumed to be exhibiting the capacity to feel pain. For with respect to each of these traits, there is evidence that at least some fish do indeed exhibit the relevant, potentially morally-significant capacity.

Wild Capture

The mere fact that an individual belongs to a species of fish, as opposed for example to a species of mammal, can only be intrinsically ethically significant if we accept speciesism, or more properly *classism*. However, there may be extrinsic features that make it all-things-considered permissible to eat fish, when it would not be all-things-considered permissible to eat mammals with relevantly similar psychological or social lives.[19]

One obvious difference between many commonly consumed kinds of fish and similarly commonly consumed kinds of land and avian mammals is in the method of harvest. In developed countries, all but a small fraction of land and avian animal meat is harvested through farming, rather than through hunting and trapping. A significant, though declining, portion of the fish eaten in developed countries is wildly harvested. Perhaps this difference is ethically significant.

[19]'Relevantly similar' means something like 'with features of the same ethical significance for moral patienthood'

To develop this possibility, it will be helpful to offer two versions of *the harvesting non-parity principle*:

> *The harvesting intrinsic non-parity principle* (HINP): For any two possible methods of harvesting an individual non-human animal for food, there can be an ethically relevant difference even if the effects of the harvest itself on the animal are the same.
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> *The harvesting extrinsic non-parity principle* (HENP): For any two possible methods of harvesting an individual non-human animal for food, there can only be an ethically relevant difference if the effects of the harvest on the animal are different.

To make an argument for assigning differential moral status to eating fish on the basis of HINP, we would need to identify something about the farming of animals that is intrinsically more morally objectionable than would be their wild capture, assuming that the animals' welfare was not affected differently.

One approach to defending HINP might be to draw a parallel with ordinary death and killing. Consider two possible histories for the same population of humans. In each history, all individuals live the same length of life and have the same quality of life with respect to wellbeing. In the first possible history, a particular individual in the population's life ends when it does in a sudden, painless, and natural death. In the other history, that same individual's life ends suddenly and painlessly, and at the same time, but due to murder. At least some people[20] have the intuition that the second history is worse than the first history. There is a special harm, or perhaps welfare-affecting wrong, associated with killing.

Explaining this intuition may be difficult, so let us accept it unexplained for the sake of argument. Might there be something similar at work in the putative moral difference between death and suffering caused to an animal in virtue of its being farmed and death and suffering caused to an animal in virtue of its being hunted or trapped?

If there is a difference, it is of course not due to one case being an instance of killing and the other an instance of mere death. Both are instances of killing. Instead, the difference would have to come from the bringing of an animal into existence with the intent to harvest it for food and then killing it versus killing an animal that was not brought into existence for that purpose. Something about the intent (or lack thereof) behind an animal's creation in combination with its actually being killed for food would

[20] See Broome (2004) and and McMahan (2003).

need to be morally significant.

We wish to set aside most of the interesting moral questions that arise here. The importance of intentions and the difference in the character of the type of action between farming and hunting or trapping deserve attention, but the right way to treat these differences depends to some degree on which normative ethical theory turns out to be correct. We are not in a position to address that issue in this chapter.

However, there is one important issue that we do wish to take up. That is to what extent the fact that predator/prey relationships exist in nature makes acting as a predator, rather than a farmer, different with respect to ethical status.

There is a line of thought that circulates among some of the folk that sees fishing as a way of being close to nature.[21] This is in part due to the physical proximity of the fisherman to nature, for example on a boat in the ocean or sitting at the shores of a lake. The other is that it brings one closer in some sense to a pre-modern, or at least pre-agricultural, way of life.

While there are important traditions of thought that view going back to the land, or to the sea, as being more in touch with nature—sometimes understood as living an earlier human lifestyle—it is unclear how this could be an ethical good for its own sake. There are many pre-modern and pre-agricultural practices that seem clearly wrong to pursue in circumstances in which they can be avoided, and which do not seem to gain any added moral significance from having been widespread in the past. For example, in the great majority of hunter-gatherer societies[22] there was a quite significant social and political power asymmetry between men and women. This neither vindicates the history of oppression of women in later times, nor is it a reason to favor reversing the still-incomplete political and social gains of women today.

In addition, whatever the status of non-human animals as moral patients (that is, as bearers of moral status), much of the animal kingdom is occupied by creatures who are neither moral agents nor otherwise in a position to make choices about what to eat on ethical grounds due to limited dietary flexibility. This puts omnivorous, agential humans in a very different moral position to that of non-human animals with respect to our choices about what we eat and how we harvest it. Whatever

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[21]See Charles List's chapter in this volume.

[22]This seems to have been true even in notably egalitarian cultures, like the pre-western contact culture in Vanuatu. See Wrangham (2010).

might be said in favor of treating farming on the one hand and hunting or trapping on the other differently from a moral point of view, it is not on account of the latter's being more natural than the former.[23]

This brings us to HENP and the question of whether there are contingent features of hunting and trapping that might have an effect on the moral permissibility of eating wild-caught fish. The answer to this question brings us back to §1 of this paper: how does hunting or trapping fish affect their wellbeing differently from farming them? Unfortunately, it is difficult to offer accurate generalizations regarding fish welfare in farmed systems. That is because the conditions of these systems vary drastically. In some, fish are highly stressed and subject to other welfare concerns, like disease and parasites.[24] But other controlled environments have been designed to minimize stressors and disease.

It is yet more difficult to offer generalizations regarding the welfare effects of catching fish in the wild, in part because it is very difficult to study the stress-effects of actually catching fish in the wild. However, the effects of contemporary wild catching practices on fish populations are much more apparent: severe and ongoing depletion of fish stocks. As of 2002, the UN reported that 24% of fisheries were either overexploited or depleted.[25] Even more worryingly, some now estimate that wild fish stocks will completely collapse by 2048.[26] Even if this proves to be overly pessimistic, it seems safe to say that current wild capture practices can hardly be thought to constitute anything other than a disaster for fish welfare, considered at the population level.

So to conclude concerning the question of wild capture, whether it makes a difference to the moral permissibility of eating fish in the actual world seems to depend more on what we say about HINP

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[23]A more nuanced version of this thought might run as follows: "it is simply in the nature of certain animals to be eaten by other animals. If it is in the nature of some animal to be eaten by other animals, then there might be no sense in which it is wrong for that animal to be eaten; those animals are simply fulfilling their nature." While we are skeptical of the strong teleological outlook required in order to support this sort of objection, we are willing to spot such assumptions for the sake of argument. Still, we think, this objection fails. For the relevant question is not whether these creatures should be eaten by their natural predators, but rather by us, by human beings equipped with all manner of artifice, be that fishing lines or trawlers. We are unable to see how anything short of a divine creation-type story would allow one to posit that fish it in their nature to be caught and eaten by creatures like us. At the very least, some explanation of how this might be possible would be required to take this sort of view seriously.

[24]Cf. Conte (2004).

[25]United Nations Food and Agricultural Organization: General Situation of World Fish Stocks. Accessed at <*www.fao.org/newsroom/common/ecg/1000505/en/**stocks**.pdf*>.

[26]Worm et al. (2006).

rather than HENP, at least when the alternative food sources are plant-based. With respect to HINP, back to nature arguments do not appear to lend the principle much support, but it remains an open question as to whether farming might be inherently morally worse than hunting and trapping, given otherwise equal effects on its victims.

Fishing Communities and Cultural Practices[27]

Fishing communities and farming communities differ in at least one interesting way. Many farming communities (although perhaps not ranching communities) could in principle maintain many aspects important of their lifestyle by switching what they farm from livestock to plants. On the other hand, if it proves morally impermissible to wild-harvest fish, the lifestyle of many traditional and modern communities would be lost. Perhaps the moral benefit of preserving these communities and lifestyles outweighs the harm of at least certain kinds of fishing, or perhaps the harm of harvesting certain kinds of fish.

There are pitfalls in trying to defend this line of argument that must be avoided, so we shall begin by trying to avoid them. The first is committing to too strong of a moral principle. Let us call the too-strong principle the 'absolute principle of cultural preservation':

> *The absolute principle of cultural preservation* (ACP): The fact that *P* is a longstanding cultural practice, central to a community's way of life, makes preserving *P* the overriding moral consideration.

It is not at all difficult to see what is wrong with ACP, which would provide overriding justification for the continuation of chattel slavery, serfdom, the systematic oppression of women, and many other deeply morally objectionable practices.

To avoid the obvious problems that arise from ACP, we can try an alternative principle:

> *The weaker principle of cultural preservation* (WCP): The fact that *P* is a longstanding cultural practice, central to a community's way of life, makes preserving *P* a moral consideration to be non-minimally[28] weighed against other moral considerations.

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[27]We thank Simon Rosenqvist, who provided us with many valuable comments, in particular for his contribution to improving this section.

[28]The 'non-minimal' clause is to ensure that the considerations are not treated so weakly as to be always morally outweighed by other considerations.

WCP is clearly more plausible than ACP. All things considered, societies with chattel slavery ought to change their laws, members of cultures that oppress women ought to change their practices, and so on. However, even WCP is problematic, at least in forms that would help the case for making fishing, and the eating of fish that pays for it, be morally permissible.

To see why, let us consider its consequences. If the fact that a particular practice is central to community's way of life is some non-minimally weighted moral reason to preserve that practice, then at least sometimes it must be able to outweigh, or at least balance against, another non-minimally weighted moral reason.

Fishing kills a great many fish and also marine mammals (as an unintended consequence). Suppose that we assign a low moral weight to the suffering and death of each of these animals individually. Presumably over the history of the practice of fishing, eventually the amount of moral harm done is equivalent to that of killing a single human individual.

Now let us suppose that there is culture with the following practice. Each year a handful of sand is thrown on the roof of every home occupied by just a single person. Let us also suppose that those homes are always occupied by a single person, with a new one moving in when the previous occupant partners off or otherwise leaves. Let us suppose that eventually, over the course of many decades, one of the roofs will collapse, killing the home's occupant. At that time, all the sand is removed from other roofs and used to fill in the collapsed house as a ceremonial grave.

We might suppose that this practice exists for a reason of sorts. The community for its own safety has to move sand away from one side of the village, where the village food supply is grown, to keep it from mixing in with the soil. When the village was originally founded, it was too difficult to move the sand much beyond the village, and this practice of removal to single villagers' roofs had the benefit of not impeding cart traffic in the streets with big piles of sand. With modern technology, the village could over a period of several years safely transition to moving the sand all the way to the other side of the village. But the villagers choose not to, in part because a way of life will be lost. The threat of collapsing roofs is an important part of the process of partnering off, as it motivates single persons to marry, and it plays a critical role the regulating the real estate market.

Even though this practice only kills one person every several decades and serves further cultural and economic purposes in the community, it is difficult to see the case for preserving its existence. Its moral costs are in the scheme of things not very high, but the trade-off between maintaining the

culture and killing someone unnecessarily seem to work against the former and in favor of the latter.[29]

It seems likely that someone who is attracted to the cultural practice argument will be willing to bite the bullet on cases like this one.[30] It is our suspicion that increasing the number of innocents who are involuntarily harmed by the cultural practices will eventually make biting the bullet too difficult, even for those attracted to the cultural practices argument. The actual harm done by traditional fishing is often higher than might be expected. Commercial fishing, one of the bedrock traditional cultures of upper New England, is rated by the National Institute of Occupational Safety and Health as the most dangerous profession in America. Many Maine fisherman work in the most dangerous sub-industry is fishing for scallops (from 2000-2009 deaths occurred at a rate of 425 per 100,000 full time fisherman annually, or 26 total deaths during that period) and groundfish (at a rate of 600 deaths annually per 100,000 full time fisherman, or 44 total deaths, during the same period) in the Atlantic.[31] It is at least plausible to assume that alternative economies could be developed with safer primary of sources of employment.

Perhaps the most plausible cultural preservation principle would be one like this:

> *The moral principle of cultural preservation* (MCP): The fact that *P* is a longstanding cultural practice, central to a community's way of life, makes preserving *P* a moral good in virtue of being a cultural practice if and only if *P* is not morally bad independently of being a cultural practice.

This principle's plausibility strikes us as difficult to explain beyond appeal to the folk's intuitions. People are quick to appeal to cultural practice as a good reason for doing something, as long as the tradition is seen as central to a particular culture and is not thought to be excessively harmful. We ourselves are not confident that the folk's intuitions are correct in this case, but that is a separate discussion.[32]

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[29]Tyler Doggett helpfully noted to us that there are many cultural practices that cause unnecesary deaths, but against which there is no serious public outcry. Some of these practices, for example alpinism practiced by informed and consenting adults, may fall within the range of those activities which are unwise but permissible. In those cases where consent cannot be given, for example for dangerous activities that might be required of children in schools, it would seem that the lack of public outcry is a moral failing.

[30]Mark Budolfson helpfully suggested this point to us.

[31]See Center for Disease Control and Prevention (2010).

[32]See Cudd (2006) for a wide-ranging discussion of the problems of among other things assigning much moral weight to a practice because it is a cultural tradition.

While MCP may be correct, it is difficult to see what role it could play in an argument for the moral permissibility for the consumption of fish as a means to supporting fishing communities. In order for MCP to do work, it would already have to have been determined that fishing is not morally bad. There is some ambiguity in the 'morally bad' clause in MCP. If it is read as *pro tanto* bad, then it is difficult to see, affording any moral weight to the welfare of marine life (the fish being fished for or the marine mammals being harmed as a side-effect), it is difficult to see how fishing could fail to be *pro tanto* bad. On the other hand, if the clause is read as morally bad all things considered, then MCP does no extra work in determining the all things considered goodness or badness of fishing.

This does leave open one possibility for the distinctive role that fishing plays in fishing communities to matter. That is the question of how much harm will accrue to the individuals of the community if they can no longer sell their fish. If eating fish is required for selling fish, and the failure to sell fish will result in significant harms to the fishing community, then the harms to the victims of fishing must be weighed against the harms from the cessation of fishing to the members of the fishing community.[33]

What the final assessment of these considerations should be is both a theoretical and an empirical question. But even if the immediate cessation of fishing, or of eating fish, would be morally wrong, it remains an open question as to whether particular communities or individuals are morally required to begin the transition process to a different lifestyle. Without the cultural preservation principles, and contingent on the feasibility of doing so, we cannot see any argument against many fishing communities being morally required to effect a transition to a different economy.

Two Collective Action Problems

Fishing raises a number of tricky issues pertaining to how we ought to act together—both as human beings in general and as specifically political groups—and what that means for how we ought to act individually. We shall focus here on two: first, how should fishing be regulated, given that it largely takes place in environments which are difficult to monitor and where rules are difficult, if not impossible, to enforce? Second, what should one do, as an individual, given the considerations regarding fish attested to above? As we shall see, these questions are not unrelated.

Fisheries are, in a sense, the world's last great common resource. Many fisheries are, of course,

[33]Tyler Doggett helpfully pointed out that similar arguments may arise with respect to free-range farming: if these farms are less efficient, and that decrease in efficiency isn't made up for via increased prices, then farmers will be harmed by switching to free-range methods. That harm would thus need to be weighed against the benefit to the animals involved.

located within national waters, but a great many are located well beyond these boundaries. Supposing for the moment that we accept that we ought, collectively, to allow for industrial-scale fishing, how ought we to manage fishing stocks, and in particular those stocks which lie beyond the bounds of any national border?

One common proposal is that we ought to harvest fish 'sustainably', where this is taken to mean something like "maintaining a yield of X tonnes of a particular species indefinitely while not grossly degrading the surrounding oceanic environment." One might attempt to achieve this goal in a number of different ways, but one common thought is that some non-governmental or supra-governmental body ought to distribute permits to catch a certain amount of fish in line with experts' projections for the particular fishery in question.[34] This, in turn, raises the question of how these permits should be distributed, and how their trade should subsequently be regulated.

We take this question of what this initial distribution should look like to be a very hard problem. It might initially seem that these permits should be primarily given to fisherpeople from poorer regions, since this would effectively serve as a wealth-transfer scheme to those regions. But note that fisherpeople from poorer regions may well have more incentive to cheat if they can, since greater profit is likely to disproportionately improve the lives of people in very poor areas. What's more, anti-cheating regimes (via inspections) and technologies (e.g. GPS transmitters) are expensive and may pose an undue burden on fisherpeople from poorer regions. On the other hand, distributing permits to fisherpeople from rich countries looks very much like rewarding these people for already being wealthy. All this suggests that there may be no easy answer to the question of how, regardless of what sort of agency might be set up to control fishing in international waters, permissions to fish in those waters ought to be distributed.

Even if a fair distribution scheme were to be implemented, one would have to expect illegal fishing in international waters to continue well into the future. All this might make it tempting to shift the burden of regulating fishing from the body politic to the consumer: if consumers were to demand that the fish they eat be certified in some reliable manner, or if they were to refrain from eating fish at all, wouldn't that resolve this problem of regulating the world's ocean commons? Unfortunately, there is reason to worry that it might not.

This brings us to our second question regarding collective action and fish: as an individual, should one expect to have any effect on fish welfare by choosing not to purchase and eat fish? Sadly, we suspect not. The system of fish production is highly complex and waste-tolerant, meaning that the signals generated by individuals' purchases (or lack thereof) are likely to get drowned out in the noise

[34]See, for instance, Hilbourn (2012).

of the overall system.[35] This threatens to undermine one common motivation for not eating fish: the hope that one's individual actions will directly result, via the transmission of an economic signal, in increased fish welfare. Analogous reasoning should lead one to expect that one's signal regarding a particular certification scheme will be drowned out by the noise of the overall system of fish production.

Of course, this problem is not at all unique to the question of whether it is permissible to eat fish; analogous problems arise with respect to any sort of land or avian animal we might consider eating.[36] While we cannot hope to deal with this problem in full here, we shall offer a few initial thoughts on why this observation does not support the view that it is *prima facie* morally permissible to eat fish, or likewise to purchase fish without regard to their sustainability.

Our basic strategy of response will be of the 'partners in crime' variety. That is, we think that this sort of worry can be used to generate an apparent reason not to ϕ in instances where one clearly ought to ϕ. So we reject the thought that inefficacy undermines one's reasons to ϕ in any general sense. That, of course, leaves unresolved the question of whether inefficacy worries undermine one's reasons not to eat fish in particular.

So how does this sort of inefficacy objection threaten to over-generate? Consider a situation in which you live in a slave-holding society. You do not yourself own slaves, yet you face the following choice: either you can speak out in opposition of slavery and face moderately unpleasant social repercussions, or you can stay quiet and suffer no such repercussions. Either way, you should expect that your actions will have no effect on the welfare of the enslaved population around you. We can further stipulate that you are right in this expectation; your actions either way will have absolutely no effect on any slave's wellbeing.

Ought you speak out against slavery and suffer the moderately unpleasant social repercussions? We submit that the answer is very clearly "yes." This shows that the mere fact that an action requires a small personal sacrifice but is likely to be causally inefficacious is not a clear object to that action's rightness. We further contend that the minor harms one might suffer by not eating fish—some lack of possible gustatory pleasure—are less significant than the moderate social harms of our imagined scenario.[37]

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[35]See Budolfson (forthcoming) for the terrestrial analog of this argument.
[36]See the chapters by Nefsky, Fischer, and McPherson.
[37]We assume for the sake of argument that one can obtain all the necessary nutrients for a healthy life

The slavery example makes it easy to see that problems of collective action occur in many ethical contexts, from voting to taking actions to protect the environment. These collective action problems relate closely to cooperative behavior problems in ethics and to the problem of redundant causation in ethical action. At present, how to explain why problems like these, including the slavery problem, arise is controversial. It is much less controversial, however, to hold that one in fact has obligations even in cases where one's individual actions are inefficacious in part because others do not take similar actions.

Thus, we tentatively conclude that basic inefficacy concerns do not yet serve to undermine arguments to the effect that we should not eat fish. And, to whatever extent one is unconvinced by those arguments, we do not think that these arguments undermine the thought that, in eating fish, one should attend to the sustainability and average environmental impact of the sort of fish one is eating. In order for these sorts of arguments to constitute a clear justification for the permissibility of eating fish, more would need to be done to demonstrate that the present case is unlike the case of the ineffective abolitionist we have just considered, as well as being different to many other ethical issues that run into closely related efficacy challenges besides.[38]

Conclusion

Empirical ignorance and lack of empathy have often led to poor ethical decision making. In 2012, a weak year for international fisheries, the total fish catch for the world was 90 million tonnes. It is difficult to estimate how many total fish that includes, but even if we cautiously estimated the average fish size at 200lbs, this would mean that 900 million individuals were caught and killed. This does not include all the fish and other sea organisms killed collaterally in the fishing process.

If humans are collectively making a moral mistake in eating many popular kinds of fish, then we are

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by eating sea vegetables rather than fish. The prime suspect for concern is Omega 3 fatty acids, which accumulate in fish flesh via their consumption of seaweeds containing those fatty acids, seaweeds from which these fatty acids can, in fact, be directly extracted. If this assumption proves to be wrong—that is, if there prove to be certain nutrients that can *only* be obtained by eating fish flesh—that might change the calculation here slightly, depending on the particular ill-effects of failing to consume these nutrients.

[38]Of course, we do not mean to rule out the possibility that inefficacy can serve to undermine one's reasons to ϕ in the right circumstances. For instance, the fact that a certain charity is ineffective can be an excellent reason for me to give to a different charity instead. What's more, we take it that there are likely to be cases where the fact that ϕ-ing is likely to be ineffective matters quite a bit to whether one ought to ϕ: for instance, cases where ϕ-ing also brings with it a significant risk of self-harm. We cannot see how the question of whether to eat fish could be seriously taken (by those in our likely audience's circumstances) to constitute a case like this, however.

making a massive moral mistake. This raises the question of how likely we are to be making a massive collective moral mistake.

New and innovative research into fish intelligence and psychology has started to suggest that many of our naïve assumptions regarding the sophistication of many species of fish and about their capacity to feel pain and to suffer are simply false. This is in keeping with the general trend of learning through study that many species of animals possess intelligence and psychological capacities that were often not readily apparent to us on account of their inability to report their own interior lives.

At the same time, the inscrutability of fish to us does little to generate empathy for them. It is easier to discount the suffering of creatures who cannot make the nature and intensity of their suffering known to us in a way that evokes an emotional response. For both this reason and because we have likely been underestimating the degree to which they possess morally salient psychological features, it now seems likely that we collectively have been acting wrongly with respect to eating fish on account of the harm caused by harvesting them.

At the same time, distinctive features of the harvesting of fish—that they are wild caught and that they support distinctive ways of life—appear unlikely to weigh heavily enough in the moral calculus to tip the moral scales towards the permissibility of our collectively harvesting and eating fish.

Best we can tell then, we are likely to be making a massive moral mistake when it comes to the way that we, collectively, interact with fish. Fish would seem to be worthy of moral consideration such that we should think twice about killing them for food, particularly when there are other options available to us. Even if the evidence in favor of fishes' moral standing was less compelling, we still think that a principle of caution would favor a massive shift in our attitudes towards fish. Suppose that I am only 50% confident that this is a priceless Ming vase as opposed to a fake: I still have excellent reason to be extremely careful with the vase. Why? One natural thought is that the cost of being wrong here would be extremely high. If we are going to kill nearly a billion individuals each year in order to feed ourselves, we should hope to be extremely confident that these individuals lack any claim on us not to kill and eat them. But, as we have seen, we lack anything like this sort of confidence when it comes to the case of fish.

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