**1. The tragedy of the commons as a general environmental problem.**

The villagers of Businga, a province in the Democratic Republic of Congo, convey an important lesson in their self-produced documentary, published on Youtube[1]. It is the story of how a forest vanished before everyone's eyes. Not long ago Businga's hillsides were densely forested. Villagers practiced agriculture on small parcels of land that were cleared, planted, harvested, and then allowed to replenish. Some hunting supplemented their diet. Trees provided ample fuel and shelter. Businga villagers lived sustainably this way.

However, with the rise in commercial demand for trees, suddenly it made sense for villagers to undertake a little extra logging. Noticeable scars soon appeared on the hillsides. Soil nutrients eroded faster than they were replaced. Animals and good trees become increasingly scarce.

Despite clear warning signs, Businga villagers continued logging. They didn't stop until surrounding hillsides were denuded. Topsoil soon washed away. Water quality collapsed, along with the productivity of their land. Businga villagers now scrape by on a few simple crops (the few potatoes that can grow in the remaining soil) and a small amount of livestock.

Some Businga villagers blame their predicament on political mismanagement. "The government should have stopped this," one villager comments, "they should have fined people for logging." Others point the finger at Eurpoeans (the 'white men') who created a commercial market for timber. However, most villagers accept responsibility for their actions. "We cut this forest ourselves," one person explains. "Some of us cut trees to make charcoal, others burned it to farm. Everybody did it, even women and children." The Businga villagers are now struggling to replant their hillsides. Maybe, one day, they will succeed; but foreseeable generations will live in the shadow of this self-inflicted devastation.

One might ask why the villagers continued logging, right down to the last tree, despite such obvious consequences? It is tempting to regard Businga villagers as somehow culturally inferior. However, this interpretation misses the moral of their story – this predicament could happen in any culture. To see how this is so, one must understand the logic of tragedy of the commons situations.

[1] http://www.youtube.com/watch?v=cmIEESAHD4A&feature=related

The phrase “tragedy of the commons” alludes to the Medieval land tenure system in Europe, where herders were permitted to graze cattle in public pastures called a commons. The philosopher Garett Harden uses this example to illustrate a more general scenario[2]. Each farmer benefits by adding cows to the common. This increases the overall impact on the land, eventually degrading the pasture’s quality. This is like what happened in Businga. A tragedy of the commons occurs whenever individuals, acting in their own rational self interest, cause the destruction of some shared good. To understand how this can happen anywhere, one must apprehend the logic of these types of situation. Each herder knows that if he or she does not add another cow to the pasture, some other herder will do so. Therefore, even if the depletion of this resource is foreseeable, it is not within the power of any single villager to prevent. Each herder faces a choice: either receive a short term benefit while contributing to the destruction of a common good, or forego the benefit and watch that good disappear anyway. It must have been an emotionally wrenching for Businga villagers to participate in the destruction of their forest. Yet it was a rational decision for each individual to do so.

## 2. Three potential strategies for avoiding tragedy of the commons.

There is no universally accepted solution to this problem. However, three general strategies tend to arise time and again as means for avoiding it. Each strategy comes with certain drawbacks as well as advantages. In the following section we will consider Aldo Leopold’s reasons for rejecting two of these three options. But first, in the remainder of this section, we consider how each strategy proposes to avoid tragedies of the commons.

### *2.1 Widespread privatization*

Some think that the best way avoiding a tragedy of the commons is to place environmental goods in the hands of private entities –essentially removing all common goods from the equation. Each individual, company, non-profit organization, and other private entity would then be permitted to manage its property, however it pleases, within a free market system. At

[2] *Hardin*, G. (1968). "The *Tragedy of the Commons*". Science 162 (3859): 1243–1248.

first glance this might seem like a worst case scenario for conservation. We are not used to thinking of private individuals or organizations as environmental custodians. However, some argue that people have a greater incentive to manage resources sustainably if they own them. Unlike public property, where there is no incentive to limit one's own consumption, permanent damage to personal property only harms the owner's long-term interests. The private ownership approach, also known as *free market environmentalism,* assumes that most people would behave in accordance with their long-term interest and manage private resources sustainably[3]. As the economists Terry Anderson and Donald Leal explain:

> At the heart of free market environmentalism is a system of well specified property rights to natural and environmental resources. Whether these rights are held by individuals, corporations, nonprofit environmental groups or communal groups, a discipline is imposed on resource users because the wealth of the property owner is at stake if bad decisions are made. (2001, p.4)

Imagine how this strategy might have applied to the Businga villagers before the widespread destruction of their lands. Each family or village would be assigned a parcel large enough live on sustainably. After that point, it is entirely up to each group how they decide to regulate its use. If some villagers opt for short term benefits, resulting in the destruction of their lands, this will only make the remaining areas more valuable. One can imagine how motivated a Businga villager would have been to conserve his land, seeing that surrounding areas were undergoing rapid depletion. So long as there is a system of land ownership in place, the thinking goes, this strategy is an efficient means of avoiding a tragedy of the commons.

*2.2 Government regulation*

A second, more popular strategy for avoiding a tragedy of the commons is through government regulation. Essentially, at least two components must be in place for this system to work. First, successful regulation requires a reasonably accurate understanding of how relevant parts of the ecosystem function. This knowledge is required to set sustainable quotas on resource use. The

[3] Anderson, Terry and Donald Leal (2001) *Free Market Environmentalism: Revised edition.* Pagrave, Mackmillan.

second component is an effective way of enforcing environmental regulations. This strategy was not employed in Businga, because either the regulations or the system of enforcement (or both) were absent. However, as Canadians we are familiar with many environmental agencies that track the abundance of public goods and police their exploitation. The Department of Fisheries and Oceans is an example of a government agency devoted to the sustainable use of this natural resource. This agency is effective to the extent that it has access to reliable scientific information about fish stocks, and insofar as it has a strong system of enforcement to punish violators[4].

*2.3 Ethical obligations*

A third strategy for avoiding tragedies of the commons is to provide some means of *internally* motivating the community to refrain from overexploiting natural resources. The simplest way in which this might be achieved is for people to recognize overexploitation as morally wrong. Of course, this attitude will not prevent some people from behaving immorally and taking more than their share. However, most people are motivated to avoid the condemnation of their peers. Provided that moral attitudes are widely shared, it is conceivable that moral norms could override self interest and prevent a tragedy of the commons.

Although these three strategies are distinct from one another, they are by no means mutually exclusive. In fact it is easy to find cases where two or more strategies are applied in conjunction. Popular attitudes towards smoking in public are an interesting case. In the 1990s the scientific community recognized that second hand smoke is carcinogenic. This discovery provided legal justification for the ban against smoking in many public spaces. Moral attitudes towards lighting-up in public rapidly followed suit. Hence, it is possible that a combination of legal and moral sanctions could curb the rates of energy use, greenhouse gas emission, and other environmentally harmful activities. However, there is an important difference between the smoking example and the environmental case, which is worth mentioning here even though it will be discussed in more detail in what follows. In the case of smoking, there is widely received scientific evidence that second hand smoke causes harm to others. Since we recognize

[4] The collapse of the Atlantic cod fishery is a case where DFO failed in this duty, and serves as an interesting case study for the weaknesses of the government regulation approach to environmental management.

the lives of innocent bystanders as morally significant, it is morally reprehensible to smoke. In the case of environmental harms, it is less clear that there exists a victim to whom we have moral obligations. In cases where environmental damage does not end up in utter devastation, like Businga, people are often not harmed. The "losers" are the forests themselves. Up to this point we have been imagining behaviours that have environmentally tragic outcomes. In this case it is clear that humans are harmed by these actions. But not all cases of environmental destruction are tragedy of the commons situations. Many species are destroyed without the slightest impact on human welfare. In fact, it is often the case that environmental destruction results in a social benefit. One challenge for environmentalism is to justify a moral prohibition against environmental harm when there are no negative human consequences. This issue will come up again in our discussion of the Land Ethic.

### 3. Aldo Leopold's arguments applied to privatization and regulation.

Aldo Leoplod is widely regarded as the father of modern environmentalism. His most famous novel, *A Sand County Almanac*, is a collection of philosophical reflections informed by his role as a conservation manager in Southeastern United States and Wisconsin. The reason that we investigate Leopold in this class is because he remains an influential figure, often cited by contemporary environmentalists to support their claims.

Leopold did not have the phrase "tragedy of the commons" in hois vocabulary, yet it is apparent that he understood the logic of this situation. In one example, he is discussing the effects of farming in the Southwest.

> This region, when grazed by livestock, reverted through a sense of more and more worthless grasses, shrubs, and weeds to a condition of unstable equilibrium. Each recession of plant types bred erosion; each increment to erosion bred a further recession of plants. The result today is a progressive and mutual deterioration, not only of plants and soils, but of the animal community residing thereon" (p. 165)

Like the villagers of Businga, the farmers in the Southestern United states observed the gradual deterioration of their soil. They realized that this slow decline could be prevented. Yet, the farmers continued to over-graze the land.

Leopold was also aware of three general strategies for potentially avoiding this outcome. Again, he does not explicitly refer to these as the "privatization", "regulation" and "ethical" strategies (this is my own terminology). Nor does Leopold frame his argument in exactly the way that I have done here: as a rejection of the first two strategies and a defence of the third. However, this framework provides a useful way of organizing Leopold's arguments.

*3.1 Objections to the privatization strategy.*

A key assumption of the privatization strategy is that individual land owners are motivated to use their resources sustainably, and not to spoil them. The incentive to do so, on this view, is based on economic self interest. However, this incentive applies only to *economically valuable* aspects of the environment – the elements of one's property that can generate profit. People are willing to pay for trees and fresh water. They will even pay to see interesting landscapes or rare flora and fauna. But many of the entities that conservationists care about have no market value. For example, most people will not pay to conserve a rare species of moss that has no industrial application. As Leopold explains, "One basic weakness in a conservation system based wholly on economic motives is that most members of the land community have no economic value." This is seen as one of the problems with the privatization strategy: the range of biotic entities that have market value, and will (by hypothesis) receive protection under this approach is only a subset of the entities that (arguably) deserve protection.

Some might take this objection to defeat the privatization approach. However, as environmental philosophers it is our job to probe a little deeper and consider potential replies on behalf of privatization. One option is for the advocate of privatization to challenge the very idea that an organism might be worth protecting if it lacks economic value. Leopold, like most of us, assumed that the value of nature is greater than what it might fetch on the open market. But this question is open for rational debate. What, for example, is so special about that worthless species of moss that justifies its protection?

Leopold is aware of this challenge. He is also seems familiar with a standard reply that some environmentalists invoke at this stage of the argument. The typical response to the question, Why are economically valueless species worth conserving? Involves pointing to some

indirect economic benefit that they allegedly possess. On this view, even a rare species of moss could have some unknown ecological connection to more valuable species. If it is true that most species have indirect economic value, because of these alleged ecological dependencies, then a private owner should protect these species in order to protect his or her long term interests.

Although Leopold sees ecological communities as highly integrated, he is reluctant to go all the way in endorsing this strong form of eco-holism. Not every species has an indirect connection to something valuable. Many species can be removed without significant impact. Leopold seems sensitive to the danger of exaggerating the number of dependencies in nature as a basis for spreading economic value across the ecosystem.

> When one of these non-economic categories is threatened, and if we happen to love it, we invent subterfuges to give it economic importance. At the beginning of the century songbirds were supposed to be disappearing. Ornithologists jumped to the rescue with some distinctly shaky evidence to the effect that insects would eat us up if birds failed to control them. The evidence had to be economic in order to be valid. (p. 167)

Surely Leopold would admit that some species should be conserved for their indirect economic benefit. However, as the last line of this passage reveals, he sees indirect economic value as an unsatisfactory justification for conservation. He even suggests that conservationists who invoke this argument are doing so out of a sort of desperation, while failing to express the more compelling motivation for conservation – which, for him, is not economic, but rather aesthetic or ethical in nature.

So far we have considered one reason for potentially rejecting the privatization strategy: most species lack economic value and so there is no motivation for a self interested person to conserve them. A realistic assumption is that many organisms have neither direct nor indirect economic value. So this objection is not seriously threatened by rampant eco-holism. However, this is not the end of the story. The privatization strategy is far from defeated. A determined privatization theorist could bite the bullet at this point, and argue that species lacking economic value are simply not worth preserving. This does not prohibit interest groups from protecting the species they care about. One can imagine an interest group dedicated to saving the ecologically insignificant species of moss, much like the Vancouver Island Marmot is protected

by a dedicated interest group. The private ownership approach recommends such initiatives. However, the dedicated privatization theorist must admit that if no advocacy group emerges to protect a given species or region, and if its economic value is zero, then there is perhaps no good reason to protect it. Marmots might survive on this approach, but endangered mosses face grim prospects.

Before considering other strategies for avoiding environmentally tragic outcomes, it is worth considering other potential objections to the privatization approach. Many of these objections were raised during class discussion. I will note them here fairly briefly, without going into a detailed analysis of their strengths and weaknesses.

- The privatization approach assumes that people will act in their long term economic benefit. That is, it assumes that people will live sustainably on their property because they profit from doing so, and want to continue profiting indefinitely. However, this might be an overly charitable view of human nature. Free market environmentalists often claim that their view of human nature is pessimistic, because they assume that people will behave only out of self interest. Yet, in another respect this view is optimistic, because it assumes that people will behave rationally. That is, it assumes that people will not succumb to the temptation of overexploiting their land for the sake of short term gain. What to you think is the more accurate view of human nature, and why?

- The privatization approach is not easily applied to mobile uncontainable resources, like fish, clear air, or water. To the extent that these resources are vulnerable to a tragedy of the commons-style collapse, the privatization strategy is limited in its application.

- In order to be deemed acceptable, widespread privatization must be equitable. That is, environmental resources must be divided up fairly, or else people are unlikely to agree to this strategy. However, one might argue that fair distribution of environmental resources is a very difficult, if not impossible task. On this view, however appealing this strategy might seem in theory, it is not practically feasible.

*3.2 Objections to regulation.*

A more common recommendation for avoiding tragedies of the commons is for government to step in and regulate public goods. Leopold considers this a popular, yet flawed approach.

> It is difficult to give a fair summary of its content in brief form, but, as I understand it, the content is substantially this: obey the law, vote right, join some organizations, and practice what conservation is profitable on your own land; government will do the rest (p. 165)

It is possible to say a little more about this strategy. Successful government regulation has two basic components. First, there must be some reasonable quota placed on the extraction of public goods. The quota ensures that resources are used sustainably, not overexploited. Second, there must be a policing system to catch and punish violators. Importantly, the policing system must create a credible deterrent. Punishment must be more costly than the potential benefits of cheating. For example, if the fine for poaching trees is $100, but each tree has a market value of $1,000, then the fine is not a deterrent – it is merely a business expense.

Leopold has almost no faith in this strategy. His pessimism stems partly from his views about the limitations of ecology as a predictive science, and partly on his cynical view of government agencies. Let's consider each of these points individually.

Recall that the first requirement for effective government regulation involves identifying sustainable quotas. In the case of a forest, like Businga in its former glory, setting quotas would have required determining exactly how many trees can be harvested each year without depleting this resource. Leopold observes that such estimates are difficult to pinpoint. Part of the challenge stems from threshold effects. Thresholds are non-linear responses to an external pressure, such as a sudden population crash in response to logging or fishing. A system's behaviour as one approaches a threshold provides a misleading picture of how it will respond once the threshold is crossed. That is, you often don't see a threshold coming until after you've crossed it, and then it can be too late.

Leopold argues that due to the "complexity" of ecological systems, accurate quota setting is difficult or impossible. Some people have faith that that ecology can identify

sustainable quotas; but according to Leopold this arrogance is not shared by the scientists themselves.

> The ordinary citizen today assumes that science knows what makes the community clock tick; the scientist is equally sure that he does not. He knows that the biotic mechanism is so complex that its workings may never be fully understood." (p. 164)

Once again, this objection is inconclusive. Perhaps Leopold is underestimating the prospects of ecological science to understand ecological communities. Computational power has advanced in ways that Leopold would have been unable to imagine. This provides one reason for being optimistic about ecologists' abilities to model and predict complex systems.

Suppose, for the sake of argument, that ecology's prospects are better than Leopold imagines. The regulation strategy is still not out of the proverbial woods. The second requirement for its success is an effective system for policing quotas. Here Leopold draws on his experiences with the Wisconsin Legislature, and its failure to set quotas to mitigate soil erosion, as a decisive case study.

Farmers were given the opportunity to draft laws that would mitigate the amount of damage being done to the land. Yet they utterly failed in this task. Leopold seems to draw from this example a lesson about human nature. He infers that people are generally unmotivated to create effective systems for policing environmental quotas.

Whether Leopold is correct in this assessment is a topic for discussion, and I will not explore it here. Instead, let me mention a few additional reasons why one might be suspicious of the regulation approach.

- Governments are often vulnerable to corruption.

- Regulations are often not fair. They benefit some individuals more than others. This can motivate people to cheat the system, because they consider it inherently unfair to begin with.

- One centralized system of regulation might not fit a diverse set of regions. For example, the laws that work best in Wisconsin might not be as effective in Ontario.

Undoubtedly there are other objections one might raise against the regulation strategy. The debate over this approach is certainly not settled. For instance, some advocates of this approach argue that the problem lies not so much in regulation per se, but rather in the grand scale at which it is typically applied. According to this proposal, regulation works better on a small scale because it is easier to understand the workings of smaller system, and easier to police quotas. Whether this modified version of the regulation approach avoids the objections we have raised is a topic for some other time. Let us instead follow Leopold and accept, if only for the sake of argument, that both privatization and regulation are inadequate strategies for avoiding tragedy of the commons. This leaves the ethical strategy as our remaining option.

**4. What is the Land Ethic?**

Throughout his writings, Leopold repeats the need for an *ethical* appreciation of the land. Yet, he has relatively little to say about the content of the Land Ethic. In this section I will first consider what Leopold does mention about the content of the Land Ethic. We will then attempt to construct a sound argument on its behalf.

"Land" he explains, "is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants and animals." Waters are also included in this energetic circuit. So are humans and their societies. In very general terms we can think of land as any biotic system composed of multiple interacting species through which there is a flow of energy. A peat bog, a coral reef, a forest, and intertidal region- all of these would be considered forms of land on Leopold's view.

What then is the Land Ethic? In several places throughout the text he describes this belief system in terms of an emotional connection with or an "intense consciousness" of the Land. However, this is the most widely cited statement of Leopold's Land ethic:

> "The 'key-log" which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." (172)

A little later he adds,

> The mechanism of operation is the same for any ethic: social approbation for right actions: social disapproval for wrong actions" (173)

This is quite a complex statement and it is worthwhile unpacking it into three elements. The first claim in this paragraph can be summarized quite simply:

*C1) Land use issues require more than just an economic solution.*

Leopold's justification for this conclusion is grounded in his belief that most species lack economic value, a point we have already discussed at some length. So we need not consider it again here.

Turning to the next element in the previously cited passage, note that Leopold treats ethical and aesthetic considerations on par. This is a controversial view. Some argue that aesthetic considerations –e.g. the judgment that a landscape is beautiful– are subordinate to ethical considerations –e.g the judgment that the senseless destruction of species is morally wrong. For instance, it might seem that aesthetic judgments are "subjective" in the sense that their truth or falsity depends on the psychological makeup of the subject. By contrast, the argument goes, the truth or falsity of ethical judgments do not depend on individual psychology.

These are questions that I want to sidestep for now. My reasons for this are, firstly, that this position is not one that Leopold spends time defending. Instead he simply takes the objectivity of aesthetic judgments for granted. Second, we will be returning to this issue in more detail in week 5 of the course. So let's set questions about the relationship between aesthetics and ethics aside, and summarize the second element of Leopold's thesis as follows:

> *C 2) Aesthetic and ethical considerations, as well as economic ones, have relevance to land management issues.*

Before moving to the third and final element of his conclusion there is something important to note here. Notice that Leopold offers no explanation for how these different factors can or should be weighed against one another. For example, suppose that a waterfall has a certain

amount of aesthetic appeal, but that damming it would provide economic benefit. How do these considerations stack up against one another? Arguably, any acceptable environmental ethic must do more than identify the things that have ethical or aesthetic value. It must also tell us how to weigh those factors against competing concerns. Leopold's Land Ethic falls short in this regard.

Perhaps the most salient feature of the previously quoted passage is the final two sentences, where Leopold provides the content of the land ethic. He claims that an action is right if it promotes the integrity, stability and beauty of a biotic community, and morally wrong if it tends otherwise Let's think critically about this suggestion. According to the Land Ethic, an action is morally right if and only if it promotes the beauty, integrity and stability of a biotic community. One potential problem with this claim is that, if taken literally, then a very large number of actions are morally wrong. Biotic communities are in an almost constant state of flux. What about when a tree falls or a deer is killed by a predator. Surely Leopold does not consider such "natural" perturbations morally offensive. I think that a more accurate representation of the land ethic is as follows:

> *C 3) One should not perform actions that result in large scale changes to biotic communities.*

The emphasis on *large scale* disruption avoids the absurd implication that almost everything in nature is immoral. Furthermore this interpretation agrees with Leopold's view that modern humans are unique in their potential for destructive capacity on a grand scale (thanks to technology).

One might object that this statement is more vague than Leopold's because it does not specify the kinds of changes that are morally significant (e.g. to beauty, integrity or stability). However these were imprecise notions to begin with, and I think that Leopold's conclusion benefits from this cleaner formulation.

So where are we? We have unpacked Leopold's rather terse conclusion into three logically distinct components. The first, a statement about the inadequacies of economic thinking, is one that we have already investigated in previous sections. The second conclusion

about the importance of aesthetics, ethics and economics is something we shall set aside for now, if only because it seems to raise too many issues. The third conclusion I shall focus on in the next section, where we consider (my interpretation of) the argument Leopold's presents in its support.

**5. Leopold's moral expansion argument**

The central argument that is typically attributed to Leopold in defence of the Land Ethic is what I will call the moral expansion argument. It begins with the historical observation that there have been periods in human history when people's moral horizons were more restricted than today. The example that Leopold cites is the mythical character of Odysseus, who served as a moral touchstone for the Ancient Greeks. Odysseus, the story goes, punished several of his slaves by hanging on the suspicion of misbehaviour. Leopold suggests that this action would not have been regarded by Homer or his contemporaries as a moral transgression. Ancient Athenians, he explains, viewed slaves as property, not as persons. Looking back from our current vantage point this attitude strikes us as morally outrageous. Our moral horizons have expanded to recognize that all humans, slaves or otherwise, are morally significant. The subtext of Leopold's historical observation is that the limitations of a culture's moral horizon are often not apparent to its members.

We can now begin reconstructing Leopold's argument for his third conclusion. So let's articulate this key premise as follows:

*P1) Human moral horizons have expanded over the course of history.*

And from this he concludes (in our words):

*C) One should not perform actions that result in the large scale disruption of biotic communities.*

Let me stop here and introduce some terminology. The first set of terms I want to introduce is a standard philosophical distinction between two different types of claim. A *descriptive* claim is one that purports to accurately describe some fact. For example, the claim that human moral horizons have expanded to include slaves is a description of historical events. By contrast, a

*normative* claim states not how the world is, but instead how it ought to be. The term 'normative' derives from norms, which specify regulations or standards, for instance, of conduct. The claim that one *should* treat humans no differently than slaves is a normative claim. However, the claim that humans once did not recognize this norm, and that they now do, is descriptive.

So far, Leopold has only provided us with a descriptive premise. He has suggested that over the course of human history our moral horizons have expanded. His third conclusion, however, is normative. That is, he wants to conclude that people should avoid actions that result in large scale disruption to biotic communities. Does this conclusion follow logically from P1? The answer is no, it does not. Something is missing from the argument. The way that we know something is missing is because one can accept the premise as true but deny the truth of the conclusion. That is, one can accept that Athenian moral horizons were more restrictive than our own, while denying that ours should be extended to other members of the biotic community. A second clue that the argument is incomplete comes from the fact that there is a normative conclusion, but no normative premises. Philosophers have recognized that, logically speaking, one cannot derive a normative claim solely from a descriptive claim – there must be at least one normative premise. "You cannot derive an 'ought' from an 'is'" the saying goes.

Does this mean that Leopold's argument should be discarded? Not necessarily. Lets' be charitable to Leopold by thinking of some additional premises that might bolster his argument. Before doing so, it might be helpful to consider two other arguments for expanding our moral horizons. Consider the following:

P1) One ought not to harm fully fledged persons, all things being equal.

P2) All human beings, no matter their race, are fully-fledged persons.

______

C) One ought not to harm any human being, no matter their race, all things being equal.

We can imagine that the Ancient Atheniens might have encountered an argument like this one from their contemporaries who thought that Athenian moral horizons required expanding. In analyzing an argument like this, the first thing to do is look at its structure. We see that there is

a normative conclusion—the word "ought" is in the conclusion. And there is a normative premise. Closer inspection reveals that if one assumes that the premises are true, then the conclusion would also follow.

However, it is a separate question whether the premises are in fact true. Some Athenians would have questioned P2 – the claim that all humans, no matter their race, are fully fleged persons. Of course we now see that this is a truthful claim. Historically, however, it has been debated. Instead of delving further into the details of this argument, let's consider a second example.

P1) One ought not to harm any sentient creature, all things being equal.

P2) All higher mammals are sentient creatures.

______

C) One ought not to harm higher mammals, all things being equal. \

By "sentient creature" I mean any organism that is capable of experiencing pleasure or pain. This argument aims to extent our moral horizons beyond the human domain. Once again, it has the structure of a valid argument. However, there is room for debate over whether its premises are in fact true. I will not analyze these premises here. My purpose is simply to demonstrate what an argument for moral expansion needs to look like in order to be rationally compelling. Such an argument must appeal to some general norm as one of its premises. It will, presumably, also contain a descriptive statement suggesting that some kind of entity (slaves, sentient creatures, the Land, etc) fall under the scope of that norm. With this in mind, let's return to Leopold's argument.

One way of potentially reconstructing his argument is as follows.

*P1)* Human moral horizons have expanded over the course of history.

*P2) To regard the large scale disruption of biotic communities as a kind of moral harm involves expanding our moral horizons to cover those communities.*

*P3) One should not harm any entity that is covered by an expansion of our moral horizons.*

______________

C) One should not perform actions that result in the large scale disruption of biotic communities.

In this reconstruction of the moral expansion argument, I have taken the liberty of adding two premises on Leopold's behalf (P2 & P3). I believe that these are claims that Leopold adopts implicitly. That is, he does not state them (explicitly), but if asked he would have assented to them – at least that is how I read him.

This reconstruction has the *structure* of a compelling argument. P3 makes a normative claim that aims to support the normative conclusion. Hence, the argument no longer attempts to derive an 'ought' from an 'is' and nothing more. Moreover, if one assumes that the premises are true, then one would have to accept the conclusion also. The argument is structurally valid.

But are the premises true in fact? P1 appears to be a factual claim about history. P2 is also fairly straightforward. It makes a fairly obvious claim that recognizing large scale disruptions to biotic communities as wrong would involve an extension of our moral horizons. I include this premise in the argument just so that I do not accidentally overlook any steps in the reasoning.

The third assumption, P3, is more problematic. Is it true that any expansion of our moral horizons is morally right? As philosophers, we should not accept this claim on Leopold's authority. It is our task to analyze it. To do so, you might try and think of a counter example. Can you imagine a case in which our moral horizons expand to include some entity that does not deserve moral standing? If so, then P3 is false. In which case, we have not managed to provide a rationally compelling reconstruction of Leopold's argument. What exactly does this mean?

To say that an argument is rationally compelling means that any reasonable person who hears the argument should accept the conclusion based on its premises. That was the purpose of the first two moral expansion arguments, discussed earlier. Athenians might not have considered slaves as morally significant. But, after thinking about the argument mentioned above, hopefully many of them would have come to do so. The fact that Leopold's moral expansion argument (as we have reconstructed it) is not morally compelling means that someone who does not already believe that moral communities possess moral standing has not been presented with a sufficient reason to change his or her beliefs.

Perhaps there is some other way of reconstructing this argument that renders it more compelling. In fact, many authors have attempted to do precisely this. In the next series of notes, and in next week's lectures, we will consider other candidate arguments in favour of the Land Ethic. Meanwhile, let's review the ground we have covered so far.

**6. Conclusion**

Let me summarize these lectures with four basic points.

First, there are problems with both private ownership and government regulation approaches to avoiding tragedies of the commons. However, in each case it seemed that the objections were inconclusive. For example, private ownership might work in some cases. And Government regulation might succeed on a smaller scale. These are areas for further philosophical work.

Second, the limitations of these two approaches make the ethical approach seem appealing, at least at first. This approach, if successful, would provide people with an internal motivation to override self interest and curb their exploitation of common resources. So, a Land Ethic would be nice.

Third, in order for a Land Ethic to gain widespread adoption, it must be rationally compelling. That is, it must provide people with a reason for accepting the moral standing of the Land, even if they do not recognize it already.

Finally, it is very difficult to construct a rationally compelling argument for the Land Ethic. The moral expansion argument, as presented by Leopold, is incomplete. Attempts to fill reconstruct the argument involve making assumptions that are demonstrably false.

So, the task for future lectures and class discussion is to see (a) whether some other justification for the Land Ethic can be provided, or, if not, (b) to perhaps reconsider the other two strategies for avoiding environmental tragedies.