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2011-11-08
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SHOULD I BE EATING THAT?

EATING, DRINKING AND ENVIRONMENTAL ETHICS

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A thesis submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in partial fulfillment of the requirements for the degree of Master of Arts, Applied Ethics for Professionals

Johannesburg, 14 May 2011

Abstract

What each individual eats and drinks can, and does, have a varying degree of impact on the environment in which they live. This impact can be on a local, regional or global scale and can range from affecting the viability of species' populations, to contributing to global warming. This thesis sets out to explore what moral implications might exist with regard to the choices that individuals make within the context of environmental ethics. This paper discusses environmental considerations (as opposed to animal welfare or social implications for instance) and utilises various examples to illustrate different types of impacts and what this might mean. Conclusions indicating that moral obligations do exist are presented and argued for, but it is clear that there is certainly a complex matrix of factors that would (and should) affect the choices that each individual makes with regards to the food that they consume.

Declaration

I declare that this research report is my own unaided work. It is submitted for the degree of Master of Arts, Applied Ethics for Professionals, in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

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Mathew Carl van Lierop

16th day of August, 2011

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Section 1: Introduction

As I sit and write this thesis, the United Nations Climate Change negotiations in Copenhagen (COP15) are drawing to a close. On a global scale issues relating to the environment and many related moral arguments are being debated[1] through cross sections of societies. How we live and how we consume is being critically looked at. The discrepancies between north and south[2], the discrepancies between developed and developing nations and the lifestyles of many people are being looked at in an unprecedented way.

Many of the issues on the table are not moral, but it is increasingly clear that many are. Some of the moral arguments are related to social and environmental justice issues[3], some relating to equality and others on arguments based on what is right and what constitutes justice in various interpretations and manifestations. But what also exists is a bigger discussion of environmental ethics – this spectrum of ethics that has come into its own as a defined and serious part of contemporary philosophical thought around the world.

One of the most basic human needs and a fundamental underlying principle in relation to climate change is that of food security[4]. We all need to eat food, and quite a lot of it. For some a simple subsistence living is the basic prerequisite; for others there is ample access to grocery stores, markets and specialty stores at which to shop. They stock a myriad of different products, some familiar, some not-so-familiar--sourced from all around the world, from near and far, packed in all sorts of different ways. In relation to our environment I will explore the thinking around what sort of moral and ethical factors (as opposed to economic, social or political influences) might affect the decisions individuals make relating to food: What things do we think about when we buy the food that we eat? What sorts of things should we

[1] And often confused, in many cases deliberately so with political agendas.
[2] I.e. a course determination between the generally wealthier (and higher polluting) nations of the Northern Hemisphere in relation to those located in the Southern hemisphere.
[3] Including concepts such as 'polluter must pay' and the reality that wealth will mean greater resilience to climate change so that those most responsible for climate change are the better able to adapt and least at risk.
[4] 'Food security' refers to the appropriate access to adequate and nutritious food.

think about when we buy the food that we eat? And what moral obligations and implications might be on the table in this regard?

It is widely accepted and firmly established that with respect to eating animals and eating animal products, a range of moral issues may apply. These have resulted in much legislation providing a minimal basis for housing, care, transport and slaughter of animal species that we eat. Beyond this, many people further choose not to eat animal products, or certain animal products based on a number of different moral arguments. For example, compliant Hindus and Buddhists and other vegetarians don't eat meat for any combination of several reasons, including: dharmic law, which claims that a Hindu's highest obligation to is to avoid injuring any creature created by God; karmic reasons, in which eating meat involves the soul in karmic consequences of causing death and suffering to another creature; spiritual reasons, which claim that what we ingest has consequences for our consciousness—this claims that eating animals ingests animal passions including anger, jealousy, etc. with the result that meat-eaters have a lower consciousness than those who eat only plant foods; health reasons, which claim that vegetarian diets are both easier to digest and provide better nutrition than meat; and ethical reasons, which insist that eating meat increases the suffering on Earth, and thus is an immoral practice. Others may consider the choice to eat meat as correct on the basis that human beings are biological omnivores and thus biologically mandated to eat meats and that eating meat brings them pleasure, so it is doubly justified.

These arguments are consequentialist in that all of them consider the results of the action of eating specific foods as a determining factor in whether that food choice is correct. Such arguments focus only on the outcomes of decisions to determine moral rightness. In the case of the decision to eat meats (or not eat meats) a variety of types of consequentialist arguments apply, including hedonism (I eat meat because I like to eat meat), direct consequentialism (eating meat is—or is not—healthy for my body), evaluative consequentialism (the value of not eating meat as expressed in damage to the environment and other species is—or is not—greater than the value to me of eating meat), average consequentialism (I should make food choices on the basis of what constitutes the average

best for all beings that share this world with me, including animals), and total consequentialism (in deciding whether to eat meat, I must consider the impact of that decision on all parties involved, including the economic good of the producers of the meat, with the correct decision deriving from the greatest total good across all parties) (Sinnot-Armstrong 2008).

Consequentialist arguments can become challenging to navigate when actually determining whose good is most important. Agent-neutral consequentialism (Sinnot-Armstrong 2008) is one way to attempt to overcome these challenges where the person making the decision removes his or her perspective from the decision making process, and thereby strives to ensure that the determination of what makes one set of affairs better than another a more objective decision. As such the determination of the consequences as being positive or negative is independent of whether the consequences are evaluated from the perspective of the agent of the decision or from the perspective of an observer of the decision as in theory the consequentialist decision reached should be independent of perspective entirely with regards to determining the better-than or worse-than state of affairs. Agent neutrality in decisions of what to eat or not eat is likely an impossible standard to achieve, however, simply because of the conflict between the eater and the being which is eaten in the case of a decision to eat meat, and the conflict between the eater and the economic good of the producers of meat products in the case of a decision not to eat meat. In other words, the pluralistic values when considering all aspects of the consequentialist arguments means that inherently different scales or types of values must be compared. This becomes the classic problem of comparing 'apples to oranges' in that no direct comparison can necessarily be meaningfully employed. This does imply also that a consequentialist approach to the problem as outlined here does allow for insoluble dilemmas in which individuals may have to simply make their best guess as to the correct decision.

Does this mean that consequentialist arguments have no value in determining dietary choices? In fact, many, if not most, individuals who consider this issue almost certainly try to

determine appropriate actions based on consequences, either to themselves, to their health, to their spiritual well-being, or to the well-being of the environment or other species.

Animal welfare-related considerations with respect to choices of using animal products include such issues as eating the animals themselves, consumption of animal products[5] (milk, eggs, hair, honey, skin, bones etc), and the use of animals to produce other foods or food sources (fertilizers, animal feeds, beasts of burden, transporting food etc). In certain respects, writers such as Singer and Mason (Singer & Mason, 2006) have attempted to go beyond just welfare issues. They present their ideas and considerations about dietary decision-making without constructing a coherent moral framework for making food choices. It is this moral and ethical framework that this paper addresses.

Another hotly debated topic from a moral perspective is that of genetic modification of plants and animals to make them more suitable for use as human foodstuffs. While there may be a number of arguments relating to the permissibility or not of mechanically or chemically altering DNA, there can be environmental spin-offs of this. That would mean due consideration to the broader consequences of genetic manipulation is necessary within the fields of environmental ethics. Although one form of genetic manipulation, selective breeding, has been going on for millennia for domesticated plants and animals, the direct manipulation of genetic material has taken such processes to a new level and raised important questions involving human meddling with the environment and potential destruction of genetic diversity within species. Examples of the types of issues involved involve the creation of disease, drought, and pest-resistant grains, which can all have subtle environmental impacts beyond the obvious. For example, consider the case of a grain that has been modified to be pest-resistant. Experience has also shown that genes from crop grains can and do migrate to other plants in nearby fields—including into weed species. If a disease-resistant, drought-resistant, or pest-resistant weed were to develop, it could transform into a 'super-weed' resistant to all current weed control efforts, similar to the way bacterial pathogens have developed into 'super-bugs' which are now resistant to antibiotics. Thus, the genetic manipulation of the grain crop results in weeds which are far more difficult to control and which require more invasive efforts to keep

[5] Included in 'eating and drinking' of animal products are those consumed for medicinal purposes such as rhino horn, bear paws, vulture skulls and many others.

the weeds from dominating the crop fields. Since (at least to date) the spread of genetically modified genomes cannot reliably be controlled, prudent people may well assert that such genetically modified plants are not appropriate for dissemination. In addition to such pragmatic issues, some people also contend that direct human manipulation of genetic material intrudes on the domain of the Deity.[6] Furthermore, if such genetically modified plants dominate the environment and 'out-compete' natural species, genetic diversity is reduced, thus potentially causing harm to the environment—and possibly to humans also.[7]

Other environmental consequences of dietary decisions worth considering are waste, and where it goes and what happens to it. Another consequence that may be of interest is the consumption of endangered species or what they leave behind (guano[8], whale meat, or birds' nests[9] for instance).

It is possible to take a more instrumentalist approach to considering these problems by querying the decisions made at every step along the way. For example, *why* do I choose a steak rather than a tofu stir-fry? Is it because I simply like steak better than tofu—a hedonistic consequentialist reason? Or perhaps I believe that my body needs the proteins in a steak more than it needs the additional carbohydrates in the tofu stir-fry—an evaluative consequentialist reason. Maybe I consider the economic plight of the farmer and the local butcher from whom I procure the steak to be of greater value than the benefit to the cow or steer of my not eating the steak—a universal consequentialist rationale. By constantly querying the rationale behind each dietary decision and uncovering both the ultimate end intended, as well as the means I choose to use to accomplish that end, an instrumentalist

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[6] Proponents of this argument, however, must deal with the issue of selective breeding, which humanity has been doing for millennia; consider the numerous breeds of dogs which have been selectively bred over the generations to create breeds more useful or attractive to humans.

[7] The issue of genetically altered foods is moot in some countries. In the U.S. for example, 'most corn, soybean and cotton crops grown in the United States have been genetically modified to resist pesticides or insects, and corn and soy are common food ingredients. The Agriculture Department has approved three more genetically engineered crops in the past month, and the Food and Drug Administration could approve fast-growing genetically modified salmon for human consumption this year' (Jalonick, 25 Feb. 2011).

[8] Typically bat or bird manure deposits that are mined as fertilisers.

[9] In many East Asian countries the nests of swallows and swifts that are made from salivary secretions are eaten in various forms – most famously 'birds nest soup.'

analysis of my perception of the decision becomes possible. As long as my actions exist as a valid step on the way to accomplishing my declared end, the instrumentalist argument so constructed is a rational one. If, on the other hand, I were to purchase and cook a steak as part of my steps to eating a tofu stir-fry, my actions would be clearly irrational, not to mention highly wasteful. It is through exploring the rational consequentialist based arguments of what we eat and drink that I aim to ascertain whether indeed a more conscious consumptive approach would indeed be appropriate for moral agents.

While recognizing that all these mentioned issues are important, the one of particular interest in this paper is that of how dietary decisions by individuals affect local and global environmental conditions. Several aspects will be considered including:

- The effect of eating non-local foods in preference to locally grown foods;
- The effect of choosing foods that impact endangered or threatened species;
- The effect of choosing bottled water in preference to local tap water.

In all of this discussion, the assumptions are that the person making the dietary decision has a choice of foods and is not constrained by economic constraints, food choice availability, or other factors in making the relevant dietary choices. While there may be financial consequences in making a particular decision one way or another (i.e., one choice may be more expensive than another), it is assumed that those consequences are relatively minor and no decision in whatever direction (i.e., to consume or not consume any particular item) would not seriously impact the individual's financial status. Furthermore, particularly when considering the issue of drinking bottled water instead of tap water, the assumption is that the tap water would be safe, potable drinking water with no ill effects for the person consuming it.

This paper thus explores some of the arguments relating specifically to environmental ethics that pertain to an individual's moral choice of what to eat with respect to this issue in particular. I propose the question: '***Do the principles of environmental ethics create moral obligations relating to what we eat?***'

The exploration of this question will proceed in Section 2 by reviewing the literature on environmental ethics. In Section 3 the three cases suggested above will be reviewed in detail to try to construct a framework for determining a consequentialist determination of how an individual can make environmentally ethical decisions regarding their diet. Consequentialist arguments can fail to give definite guidance on what to do when there is a lack of information about the nature and value of various decision consequences, but this paper will attempt to generate reasonable heuristics that estimate consequences even where full information is not known. Finally, Section 4 provides a concluding statement that outlines the final environmental ethic of dietary decisions.

Section 2: A Review of Environmental Ethics

The first philosophical journals dedicated to the subject of Environmental Ethics include the U.S.-based journal *Environmental Ethics* which started in 1979, the Canadian-based journal *The Trumpeter: Journal of Ecosophy* which started in 1983, and the British-based journal *Environmental Values* which started in 1992. Writings which preceded the initiation of journals and which ultimately laid a foundation for these journals, had first to establish the need for an environmental ethic. Richard Sylvan (at the time of writing, Richard Routley) wrote a contemporary philosophical piece asking: 'Is there a need for a New, and Environmental, Ethic?' which he presented at the 15th World Congress of Philosophy in 1973 (Sylvan (Routley), 1973). In this paper he concluded that indeed there is a need for such an ethic. This paper, together with Garrett Hardin's 'Tragedy of the Commons' (Hardin, 1968) and 'A Sand County Almanac' (Leopold, 1949) written two decades earlier by Aldo Leopold, form the foundation of environmental ethics.

Vardy and Grosch, in *The Puzzle of Ethics* (Vardy and Grosch, 1994), address environmental ethics. They present a variety of categorizations of systems, including a consequentialist categorization. These categories include, first, those of unallocated effects which correspond to computation of the costs and benefits of each action or non-action (i.e., excessive use of fossil fuels damages the ozone layer, thus impacting the UV radiation that reaches the surface of the earth). A second category is one of experiential effects, which refers to the changes in experiences one person experiences as a consequence of the actions of some other person (i.e., my choice to spread a strong pesticide on my crops which I sell may affect the buyer's safe eating). A category of non-human effects considers how human actions have consequences for animals (i.e., hunting, fishing, food animal production). Finally, a category of non-animal effects considers how human actions have consequences for plants as well as the geographical features of the planet (i.e., our decision to strip-mine for coal causes extra erosion of the topsoil and ruins the environment for the plants in the area).

Vardy and Grosch (1994) also describe how the natural environment is valued using Alan Marshall's three modalities (further expounded upon by Marshall, 2002). These modalities include Libertarian Extension, Ecologic Extension, and Conservation Ethics. The first of these, Libertarian Extension is an echo of a civil libertarian approach in which equal rights extend to all members of a community (in this case non-human animals would be included in the 'community'). Andrew Brennan has argued that perceiving non-human agents solely in terms of economic value to humans is inadequate, and that all ontological entities, both animate and inanimate, have value simply because they exist (Brennan, 1995).[10] These types of rights-based arguments effectively extend human-based moral consideration to animals. Proponents of Libertarian Extension include Peter Singer who calls for an expanding circle of moral worth to include not just people, but animals too (Singer, 1980.). He states that to not do so would mean that humans were guilty of speciesism[11]. Singer does not feel that this, however, applies to non-living environmental factors.

The concept of Ecologic Extension is a slightly different view which considers the value inherent in ecological factors, such as a biome or ecosystem for instance. So this, as differentiated from Libertarian Extension is not looking at the individual animals *per se,* but rather at a more holistic level. Holmes Rolston III's arguments are also a form of this Ecologic Extension approach and in doing so look at both biotic and abiotic[12] factors as it is the interplay of these that is foundational for the sustainability of any ecosystem.

Marshall's third category is that of Conservation Ethics which explores the extrinsic environmental factors relating to the subsequent benefits to human beings. It is in this latter category that my arguments presented in this paper fall, although the intrinsic arguments that I will allude to would be part of the ecologic extension type.

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[10] An 'agent' in this context refers to an entity which can take action. Thus a non-human agent would include an animal which acts in its own interest. Moral agency is not required for this consideration.

[11] Speciesism is the favouring of one species over another because one is a member of that species; in this context it refers to human beings considering only other humans and not allowing moral consideration to other species solely because other animals are not members of the human species.

[12] I.e. both living and non-living

In exploring my views on the concept of an Environmental Ethic as a specific and defined concept, I began by determining my own feelings on this matter. As I write this I am sitting in London, a destination that I flew to from Johannesburg. In travelling the 9000 km. by plane,[13] my portion of carbon dioxide equivalent emissions was approximately one tonne.[14] This bothers me significantly. These feelings are not related to economic, social or political factors, but to a strong moral tension between my perceived need to make the journey for professional reasons and my ethical belief that such journeys are environmentally damaging and thus to be avoided.

What exactly about this do I view as wrong? Certainly, for me, my contribution to global warming is a significant issue.[15] While global warming events (and global cooling such as those during global ice ages) are not solely a result of human behaviour,[16] what has been established is that the level of carbon dioxide in the atmosphere is at unprecedented levels. In fact, recent reports indicate that the carbon dioxide in 2008 was at the highest level in the past 650,000 years, at 387 ppm (parts per million) and is growing faster and faster[17] (Adam, 2008). As of January 2011, the current level had risen to 391.19 ppm.[18]

The predictions resulting from these increases in atmospheric carbon dioxide levels include changes in weather patterns, changes in rainfall, more severe weather phenomena and

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[13] Distance estimate from http://wiki.answers.com/Q/How_many_miles_is_it_from_London_in_England_to_Johannesburg_in_South_Africa

[14] Estimated 0.18 Kg carbon dioxide (CO_2) emitted per passenger-mile per the World Resources Institute website, http://www.safeclimate.net/calculator/ By this estimate total CO_2 emissions for a one-way flight from Johannesburg to London is 988 Kg. A number of greenhouse gases are emitted by an aeroplane in flight. For ease of calculation, the equivalent CO_2 mass is calculated and divided by the average number of passengers. This gives a good indication of the contribution to CO_2 particles in the atmosphere and the resultant contribution to global warming.

[15] Carbon dioxide emissions that are from fossil fuels (oil, coal and gas derivatives such as jet fuel) release carbon dioxide into the earth's atmosphere as they are from sources of carbon 'locked' beneath the surface of the earth. In releasing these additional molecules into the atmosphere, the total percentage (measured typically as part per million) of carbon dioxide in the atmosphere increases. This in turn reduces the amount of solar radiation that reflects off the surface of the earth and causes a gradual overall increase in the temperature of the earth surface.

[16] See 'Geologist Connects Regular Changes of Earth's Orbital Cycle to Changes in Climate,' (6 Apr. 2010). *Science Daily*. Web. Retrieved from: http://www.sciencedaily.com/releases/2010/04/100406133707.htm

[17] Research on ice cores in Vladivostok and elsewhere indicate that the highest level achieved in the last x years is y and that we are currently far exceeding this at 420ppm CO2.

[18] From CO_2Now.org website, http://co2now.org/

global rise in sea level.[19] As a human being concerned for myself, my family, and other humans, there is an instrumental (and indeed consequentialist) argument relating to global warming. Predictions regarding threats to food security[20], threats of the spread of diseases such as malaria[21], forced migration of many millions of people[22] and threats from more severe weather systems,[23] to name but a handful of direct predictions, would all certainly threaten my personal well being. Thus, it is in my vested interests to limit my contribution to global warming. However, I feel that this somewhat selfish view does not suffice and that there are reasons beyond these that imply my flight from Johannesburg to London included moral dimensions I am not fully comfortable with.

If one were to posit a scenario where all adverse effects of climate change were mitigated via some new technology, so that human life could continue largely as it is, would this be acceptable? There are other consequences of climate change that humans potentially could adapt to successfully, yet which would still affect the environment and the other species which shares the world with us. These include, for example, melting of the polar ice caps, threats to numerous established conservation areas,[24] lack of adaptability of many species to altered habitats[25] and damage of natural areas.[26]

In 1973 Næss (Næss, 1973) presented the concept of Deep Ecology which has elements of both Marshall's Libertarian Extension and Ecologic Extension. Næss states that "the right of

[19] Due to the melting of polar ice caps
[20] Predictions indicate that changes in rainfall patterns will seriously affect global food security
[21] Malaria for instance is likely to spread significantly with global warming; in 2009, according to the World Health Organization 2010 report, 781,000 people died of malaria worldwide. See http://www.who.int/mediacentre/news/releases/2010/malaria_report_20101214/en/
[22] In the event of a 1 meter rise in sea level, an estimated 56 million people in 84 developing countries would be displaced, from 'Risk of sea-level rise: High stakes in developing countries' by the The World Bank. Web. http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:21215328~pagePK:64165401~piPK:64165026~theSitePK:469382,00.html
[23] Predications include the increase of hurricanes, more severe inland storms and higher winds amongst others because a warming climate adds more energy to the climate, making all storms and weather phenomena more extreme, including blizzards, droughts, rainstorms, etc.
[24] Due to factors such as rainfall, the results of forced migration, the need to source alternate areas to grow food etc.
[25] For instance, a rise in sea level will damage most of the reef areas on the planet and cause the coral and most other resident organisms to die.
[26] Obviously the melting of the polar caps would mean that icebergs, penguins and polar bears would cease to exist as we now know them.

all forms [of life] to live is a universal right which cannot be quantified. No single species of living being has more of this particular right to live and unfold than any other species." (Næss, 1973, pp. 166-167) And he specifically sets out to argue against rating animals on levels of consciousness for instance. This intrinsic argument resonates with that presented by Leopold (Leopold, 1949, pp. 38-46) where he says "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."

While the concept of an intrinsically underpinned environmental ethic is potentially an option for argument, I will not be making such a case in this thesis. Intuitively I like the resonance of natural features such as waterfalls or beaches having intrinsic value whether or not I may see them, and whether or not they would be seen by any other humans. Yet, as a biologist I must be wary of taking a position where considering such benefits is not merely a hidden argument for 'unknown'[27] instrumental arguments. To expound upon this, what science has not been able to ascertain is the extent to which the 'web of life' balance is necessary to ensure human survival. As such, while the extinction of some apparently obscure species of plant or fish may not appear to have much particular biological significance in the larger scheme of things, there must be a threshold where a certain diversity of species is necessary to ensure that life on earth (specifically related to human needs with regards to this argument) continues. While 'we' do not know where the diversity threshold is in terms of number and type of species, it is clear that the preservation of biodiversity is important because this is instrumentally necessary for human survival. From a consequentialist viewpoint then, one in which the consequences of a decision determine its morality, the moral imperative would be to preserve the current status quo in order to prevent a potentially far worse future from occurring.

A further pitfall of which I must remain aware is that of 'future' instrumental value. Thus while a patch of forest, unvisited by humans, may not yet be known or explored in detail, it could have some instrumental value of some sort in the future.[28] Accordingly, this same patch of forest might house a tremendously beautiful waterfall that one day might be discovered, become a tourist attraction, and thus might too have some instrumental value at some point in

[27] At least these are currently unknown to science.
[28] To cite an example of a cliché here, perhaps some miraculous cure for a disease

the future. As such, I am wary of an intrinsic position being in effect a form of 'instrumental insurance'. I certainly feel that forests and waterfalls and icebergs that hold no currently defined economic instrumental value do have some value regardless. I do not, however, have a well formulated argument to state this unequivocally, nor do I fully feel that any of those that I have read adequately serve this purpose.

Regarding the content of this research report, I will focus on a more holistic approach to the environment, rather than take a detailed look at individual components. This split between individualism and holism has resulted in considerable philosophical debate (O'Neill, 1992) (Norton, 1984) (Hargrove, 1992). Traditional Western Ethical theory is based on the individual and it has been argued that as such, this theory both can and cannot provide the basis for a holistic environmental ethic. Vardy and Grosch (1994) note that Western philosophers since Hume have addressed descriptive, factual and empirical claims as separate from ethical, normative and evaluative claims. (For example, 'I am a person who eats regularly' is a factual statement of what is true, while 'therefore I ought to make environmentally appropriate choices of what I eat' is an ethical statement.) However, Vardy and Grosch point out that environmental ethics necessarily connects both sides of these claims instead of separating them, arising from the connection between human beings and the world around us. Thus, a holistic perspective is innate in environmental ethical considerations. Thus, there are certainly reasonable holistic principles that can be used to apply to environmental ethical issues.

Within these arguments relating to individuals versus the environment as a whole, the concept of anthropocentrism becomes significant. Anthropocentrism is the view that human beings are the centre of significance, certainly on Earth, and perhaps throughout the solar system, the galaxy, and perhaps the universe. Vardy and Grosch argue for two forms of this anthropocentrism, distinguishing between deep and shallow anthropocentrism (Vardy and Grosch, 1994). Deep anthropocentrism is anchored in a firm belief that humans are the most significant entities in the universe, and that it is right and natural for this to be the case. Shallow anthropocentrism argues that as humans, taking the anthropocentric view is natural and almost unavoidable because human beings are only capable of perceiving from the

human point of view. Anthropocentrism also challenges the concept of intrinsic value for environmental elements beyond those values relevant to humans. Thus, the question would be if the Earth existed exactly as it is now except without human beings, would this hold value? Or is Earth's only value that which humans attribute to it? Norton (Norton, 1984) suggests a link between weak anthropocentrism and environmental ethics.

Within the discussions portrayed thus far, the environment has often been considered something set apart from humans, as if humans are isolated from the rest of the natural world, although philosophers such as Leopold and Næss have certainly attempted to challenge this. From an ethical perspective moral arguments were largely anchored in interactions among humans, and then transferred to generate an environmental ethic to define appropriate actions between humans and the environment, as explained above. Humans are moral agents[29] and as such created morality,[30] yet humans also are very obviously a part of 'nature'—the environment. As indicated, humans depend on the environment for survival and well-being. Human desires and activities often are in conflict with the needs of the environment,[31] leading to issues over which set of priorities - human or environmental - should take precedence.

In many of the talks that I regularly present to audiences on climate change-related matters, I refer to the simple fact that the two most effective means of reducing one's carbon emissions are (1) to not have any children and (2) to commit suicide. While these are of course somewhat drastic choices, the truth is there is some point where a moral choice comes down to human benefits over those of other species. How this might be balanced is discussed by writers such as Rolston (Rolston, 2003), Attfield (Attfield, 2003), and Nickel & Viola (Nickel & Viola, n.d.). When conflicts between the needs of humans and the need to preserve the environment are considered, these authors tend to focus on a paradigm that considers the moral obligations to the environment only if people are starving or are otherwise directly

[29] Although some do argue that certain higher order animals have some moral capacity akin to moral agency in humans and do not just require due moral consideration.
[30] That is, humans. created the branch of philosophical thinking that explores what already existed.
[31] In this context, the 'needs of the environment' includes the needs of other species—both plants and animals—who share that environment with human beings.

threatened with extinction. I feel that there certainly is a significant middle ground where it is not about human survival, but rather human indulgence. It is in this space that I wish to explore the topic of my research report further.

Humans do need to eat and drink to survive; let us say that it is even reasonable to survive well. Yet is this indulgence on the part of humanity unlimited? Is there a point at which there is a moral prerogative that should limit human indulgence in food and drink when it is in conflict with what is best for the environment? These are the questions I address in the following sections of this paper.

Section 3: Arguing the Question

As noted earlier, there are three specific cases I would like to analyse in this report. First is the issue of the decision whether or not to consume nonlocal foods when local foods are available. Second, is the issue of choosing to eat foods that may negatively impact endangered or threatened species. Third is the issue of choosing to drink bottled water when local tap water is a safe and potable alternative. For each of these three cases, I will analyse the effects of each decision to determine which would be the most environmentally ethical decision.

Based on the claim that there is an environmental ethic, I would like to pose three specific scenarios for consideration as typical instances where an individual is faced with a significant ethical decision that considers these issues.[32] The intention of this approach is to provide real-world examples of where a specific moral argument can be established.

Example 1

Purchasing flown-in imported fruit

It is the middle of winter, but I really love strawberries. My local grocery store has them available, even though they are not in season. I see that they are grown in Chile and flown in. Should I buy them to indulge my personal preferences, or not?

This situation considers the case of an out-of-season fruit that must be flown in from long distances. The item is a luxury item that I have no requirement to eat for health reasons. It is also an item that I have a strong personal preference for. While the price for the item is somewhat higher than it would be within the usual local growing season, it is also not unaffordable. What should I do?

[32] In relation to this, I do not propose to establish, nor do I believe, that a deontological or intrinsically anchored argument for environmental ethics is wrong, nor that satisfactory moral arguments supporting my conclusions in the examples that will be cited may not exist within these moral spheres.

Here the issue revolves around the consequences of transporting the fruit over long distances. The only significant distinctions between buying in-season locally grown fruit and out-of-season fruit imported from a distant source are the moderately greater price for the out-of-season fruit and the distance the fruit must travel to arrive at my grocery store shelves. As noted earlier in this paper, it is the consequences of the decision about the strawberries that determine the ethical rightness of the action taken.

This example is one of a moral situation where there are very real consequences for the environment and where the choice in this decision is based solely on personal pleasure rather than any real need. This example provides a parallel with an aeroplane flight, for instance, where a situation arises that has significant and 'unnecessary' impact. It is clear that once again, should flights[33] become carbon neutral, then this argument would rightly fall away. Once again the ethical issues involved in eating imported strawberries is not in the actual eating of the strawberries, but rather based on the consequences of the impact that consumption would have.

Yet again, this is not such a clear-cut issue as might be thought. For example, what about the situation where the fruit being consumed is not only delicious, but of particularly healthful qualities? For example, research indicates that blueberries are particularly healthful, having significant levels of antioxidants. I happen to really like blueberries, but local blueberries are only in season a few weeks a year. Should I refrain from eating blueberries because of concerns for environmental impact? Similarly, what about the acai berry, the fruit of a particular type of palm, which is supposedly even more healthful than blueberries? This berry is grown primarily in poor areas of South America's Amazon basin. Greenpeace estimated it in 2009 as the largest food cash crop in the Amazon basin, and that it provides financial security to people living in a very economically depressed area. In fact, according to an article in *The Times*, Greenpeace claims that cultivating acai palms could save the rainforest if the popularity of the berries grows sufficiently (Ursell, 2009). If this is true, is it morally reprehensible *not* to consume a product that is healthful for me, economically important to

[33] Or some alternate efficient way of transporting food across intercontinental distances at some time in the future.

people who need financial advancement, and also environmentally beneficial? This point indicates that while in certain cases it may be relatively easy to determine the consequences of my decision (say in not eating strawberries out of season) in other cases this may be much more challenging.

In addition to these examples, it is not clear that transporting food over long distances necessarily has as much negative impact on the environment as it seems. A 2008 study of the environmental impact of transporting flowers from growing fields, which may be far away or in another country, to retail stores elucidated some of the environmental dilemmas consumers face (Holt and Watson, 2008). Food (and flowers) grown in European greenhouses may not have to travel far to reach consumers in the U.K., but is the carbon footprint of such growing fields larger than open-air fields in more seasonally appropriate climates a continent or two away? Studies have consistently shown that simple distance travelled is not an adequate guide to the carbon footprint of a food, and that factors such as how the food is grown, how it is processed, and how it is transported (i.e., truck, rail, aeroplane) have more of an impact on the food's carbon footprint.[34] Thus, food grown locally in a heated greenhouse might be more energetically expensive than food grown in an open field that does not require burning fossil or nuclear fuels to support the growth of the plants. It's possible that when the total carbon cost of 'local' goods is considered (i.e., transportation plus cost of production), that the product produced thousands of miles away may be more environmentally kind—not to mention potentially sharing global wealth with developing countries—than sourcing such products more locally. This is particularly true when products can be transported by more carbon-friendly means such as ships and trains, rather than planes.

With these somewhat conflicting considerations, determining whether it is appropriate to purchase strawberries in mid-winter on the basis of the consequences of the action is difficult. Since strawberries are relatively fragile with a short shelf life, it is likely that they were

[34] An example is a study by a Bangor University scientist, Gareth Edwards-Jones, cited briefly in the April 2009 issue of Australian magazine *Food Magazine*, p. 4, under the column header 'Fast Food' (www.foodmag.com.au).

transported by air rather than via the more ecologically friendly truck or ship. Based on that assumption, the most appropriate decision is the one that would minimize the consequences to the environment, which would mean that I should choose not to buy the strawberries on the basis of incomplete information about how the fruit was transported to my grocery store.

Example 2

Consuming endangered species.

I am on holiday in Thailand. At one of the local markets, birds' nest soup is available. I know that the nests are from an endangered swift. However, I would still like to try the soup, just to see what it is like. Should I buy and eat the soup?

This example presents a situation which potentially may cause harm to an endangered or threatened species. Depending on when and how the birds' nests are harvested for the soup, it is possible that the collection process disrupts the reproductive cycle of the birds. If this is not the case, there is little issue to consider in this example, and no reason not to try the soup. Thus, the discussion below posits as a premise that collecting the nests for the soup in some way limits the swifts' ability to successfully raise a generation of chicks.

This case offers good reason not to eat the soup. The consequentialist argument would go as follows: Neither I nor science in general am fully aware of the role that this species of swift plays in the environment. However, certain assumptions about the importance of swifts can be made. Swifts eat insects, so they would, in general, have a role in the control of insect populations. This in turn could affect food security, or human well-being if the insects eaten by the swifts carried some or other disease, such as malaria. In addition to this, I cannot be sure what future value swifts could have in our world, or what this specific species might evolve to in the future. Following this reasoning, I could thus assume that further endangering the swift population could adversely affect human livelihoods. Such an assumption would lend further weight to an argument for not eating swifts' nests, but may also be sufficiently vague that this type of argument could be applied to many alternate scenarios.

Such a consequentialist argument assumes that the consequences to the swifts of interfering with their reproductive cycle are sufficiently substantial that the momentary pleasure I would gain in eating the soup would be entirely unjustified. Yet even this consequentialist perspective may be mitigated if one other issue is considered. In the proposed scenario, I am at a stall where the soup is for sale. Therefore, at the moment I walk up to the stall the soup is already made. My decision to eat the soup or not eat the soup will in no way change the number of swifts' nests that are harvested that day—or even that week, nor even the number of servings of soup that the vendor prepares. Thus, if I simply look at the consequences of my own actions, nothing I decide in any way affects the security of the swifts. If they harvest, say, 27 nests that morning, that harvest has already happened hours before I walk up to the stall. I cannot change that. It thus does not matter if I eat the soup or don't eat the soup because the total impact on the swifts is unchanged. Such a limited term definition of consequences means that the only consequences that matter are (1) that my desire to eat the soup is satisfied; and (2) the vendor's desire to make a sale is satisfied. In such a case, looking at the total consequences of the decision it is clear that the net impact on the swifts' benefit is zero; and that the net impact on my benefit is some positive amount that represents how badly I want to eat the soup. It may also have a small positive impact on the vendor because he or she makes a sale of the bowl of soup. Contrasted to this, the alternate view might hold that the vendor specifically supplies tourists with this soup. If the tourists to this region were sufficiently well informed, and declined the soup with sufficient regularity, the classic case of supply and demand would apply and as such the business of the vendor would thus decline. While this would ultimately be unfortunate for the vendor, the long term benefit for the swifts would be undeniable.

I would thus conclude that while at face value eating the soup appears to be permissible, the power of conscious consumers to affect available supply would come in to play at some stage. Perhaps my not buying the soup would mean that, as per my example, only 26 nests were harvested the following day to meet a slightly lower demand. As such there is a very real moral case for not eating swifts' nests unless one could be sure that the negative consequences that this might have on the species could be mitigated against. In addition, I

would extend this argument to hold true for many rare and endangered plant and animals species, in that if consuming any of these would result in a negative impact to the species survival, eating them, or any of their products, would be wrong. I must add, however, that there are likely to be very many other types of arguments that may affect this stated permissibility that are not considered within the limited scope of this thesis[35].

Example 3

Drinking bottled water

I am at a restaurant in Cape Town. The waiter offers me bottled water. It is San Pellegrino water imported from Northern Italy. It is the only water that they supply. I know tap water is safe to drink. Should I drink the bottled water?

In this situation, the decision is more difficult. First, tap water is safe to drink in this location; it may or may not have an 'off' flavour due to local minerals. Second, the restaurant has a policy of serving only bottled water, perhaps to reinforce the restaurant's reputation as a fine dining establishment. Third, the bottled water that is available is imported from thousands of miles away, in northern Italy. The water is not only transported for thousands of miles, it is also bottled, packaged, and labelled, all of which not only adds to the cost but also increases the carbon footprint of the water. In the analysis of this decision, the consequences of the decision to drink bottled water or request plain tap water must be considered.

In this case, as in the previous example, there could be a direct adverse impact on the environment that would in turn result in a negative impact on human well-being. First, consider the consequences of only the fact that the bottled water is transported across thousands of miles, and that it does so only after being bottled. As noted earlier, air travel generates a major carbon footprint. For example, suppose I assume that each ½ litre bottle of water weighs about half a kilogram. Thus, 100 kg corresponds to about 200 bottles of water, or about 8 cases of water. Assuming that 8 cases of bottled water is approximately the weight equivalent of a single passenger in an airline, and assuming approximately a 9000 km

[35] For instance, there may be welfare arguments regarding how certain components are harvested for instance.

transport distance between Italy and Cape Town, 8 cases of water would generate about 972 kg of carbon dioxide…just under one full tonne of CO_2 for the 8 cases of water. Dividing by the 8 cases and the 24 bottles per case, it means each bottle of water corresponds to approximately 5 kg of CO_2 . This, of course, does not account for the surface transportation of the water from the bottling plant to the airport in Italy, nor the cost of moving it from a plane to a warehouse, and from there to the restaurant or the refrigeration of the water prior to it being served. Thus, at a minimum, every 500ml bottle of water costs approximately 5 kg of additional CO_2. The transportation costs of the bottled water are clearly quite high.

A second environmental issue with the bottled water is one of the bottle itself. Not only does it take extra energy to process, bottle, label, and transport the water, the bottle itself is a significant source of environmental impact. Typically, both glass and plastic bottles are recyclable. If the bottle is fully recycled, and if the water is bottled in a fairly local plant, rather than one thousands of miles away, the carbon footprint of drinking the bottled water is substantially less than with the Italian water.

Given the above discussion, the consequences of drinking the bottled water are substantially more negative than the consequences of insisting on drinking tap water. Yet, if the bottle is properly recycled, is it so bad to drink bottled water? One might think that the bottles used in bottled waters is generally recycled. However, this is not borne out by experience. More than two-thirds of plastic water bottles used in the U.S. end up in landfill sites instead of being recycled. The full carbon footprint and environmental impact of a case of bottled water extends much beyond the air transportation carbon footprint.[36]

In terms of priorities, then, the most preferred path would be to drink tap water. If that is not possible or desirable for some reason, the second-best option is to drink locally bottled

[36] The scale of this problem is significant. Brita, a manufacturer of home water filters for consumers, points out on their website (http://www.filterforgood.com/facts/) that in 2008, the U.S. alone used enough plastic water bottles to stretch around the Earth more than 190 times, and that it takes 2000 times more energy to produce a bottle of water than it does to produce tap water. While plastic water bottles are recyclable, 69% of these bottles currently end up in landfills rather than at recycling centers. This manufacturer also claims that one of their water filters can filter the equivalent of 300 16.9 oz (half-litre) bottles of water which can be put into reusable bottles for convenient portable use.

water[37]. Only as a final resort where no real alternative exists, does it make sense to drink bottled water from a remote location[38]. It would thus follow that drinking locally source bottled water (in relation to this example, say water bottled in the Western Cape) the impact from a carbon emissions perspective would likely be much less and thus it would be better to drink this water than the imported water, although neither would be preferable to drinking tap water[39]. It is thus clear that drinking bottled water is not an environmentally ethical choice[40] as it is not currently possible to procure bottled water that would have a lower environmental impact than that of tap water.

[37] Or not to drink the bottled water at all, however any other bottled or canned beverage will have similar or worse environmental impacts and it is not an unreasonable assumption that any individual requires daily fluid intake for survival.
[38] A locally produced fruit juice may indeed be a better alternative in this case.
[39] This argument would hold further in that it would be preferable to drink water as close to source as possible since such water would have a lower impact on the environment through processing and transporting.
[40] Under circumstances where human life and well-being are not mitigating factors.

Section 4: Conclusions

With the examples of food and drink discussed in this paper, there is an implication that to some extent or other most food and drink that most human beings on earth consume is likely to have some level of negative impact on the environment. This may be how it is grown,[41] transported, processed and packaged. As such, a case becomes clear that for the average urban resident on Earth, making absolute choices regarding selecting food that does not adversely affect the environment is almost impossible. This results in a somewhat challenging position for a moral agent who wishes to make positive moral choices. Since virtually any choice will have some negative impact, it is vital to weigh the positive consequences of eating or drinking a particular item with the negative consequences to make the best ethical choice. Still, drinking bottled water (except perhaps in circumstances where there is no suitable alternative[42]) is for me a position where it is possible to make an absolute stand.[43]

In the case of importing fruits from other countries, the 'obvious' answer is that the ethically correct decision is to purchase only produce bought locally and in season. Yet, as was mentioned earlier, there may be health benefits to me in purchasing products that have special qualities of antioxidants, vitamins, or minerals. In such a case, the positive consequences would be substantially increased. Furthermore, if the scope of consequences is expanded still further, it is entirely possible that whole communities of farmers or other producers may receive important financial and economic benefit from the sale. In such a case, the consequences of eating the imported fruit become still more positive. Thus, the weight of the transportation costs would balance against the benefits gained by me and by the suppliers of the imported fruit to determine whether it is better to eat than not to eat. The weight of the consequences lies primarily in determining the consequences involved in producing, transporting, or consuming the fruit, mixed with the impact of the transportation issues to move the fruits between locations.

[41] Use of petrochemical based fertilisers uses fossil fuels and is very energy intensive.
[42] For instance when no or only contaminated tap water is available.
[43] With due consideration for the current methods of production, which may at some stage change

In the case of consuming foods derived from endangered or threatened species the consequences become focused between that of the human participants in such a decision and the consequences to the animals who would be most impacted by the food choice (i.e., swifts in the case noted in this paper). To gain an environmentally ethical perspective on this problem requires consideration of consequences beyond those noted in the first example, which were primarily human related. In this case, the key elements are human based consequences vs. animal based consequences. It then becomes important to determine how to properly weigh a beneficial consequence to, say, a group of wildebeests, in comparison to human benefits. This is more challenging to determine because in many cases we can only speculate on the benefits (or penalties) of actions on animals[44].

In the case of the bottled water, the problem becomes one of comparing benefits between humans and the global environment in a broad scope. It reflects the issue of comparative consequences for individual humans and the planet as we know it[45]. If determining the consequences of an action for an animal is challenging, when trying to accomplish this for an inanimate Gaia it becomes more challenging still. The complexity of an animal or a collection of animals is far less than the complexity of the overall global environment, as can be seen by the decades of wrangling over global climate change. Simply estimating what the consequences might be can be an enormous problem.

Thus, the issue becomes one of determining how to optimise (either by maximising the positive consequences, or minimising the negative ones, or both) the consequences of the decisions we make. The real issue, in such a case, is how are consumers to really know the impact of their choices on themselves and other people, or on animals, or on the global environment? How is the consumer to know the economic benefits purchasing (or not purchasing) that product might have for other people? Is saving economic benefits of purchases only for those in my local country simply another form of local bias in which people

[44] Indeed due to the very intricate interplay of species on earth, the affects of each decision could be much further reaching that initially envisaged or interpreted, and may well have much larger consequences. This, presumably, could be the basis for acting from caution and not just assuming that the loss of a few swifts would make no difference in the bigger scheme of things, including how this may affect human wellbeing.

[45] This would be the case should global warming take effect as predicted.

near me are more valued than people, possibly of a different race or ethnic or religious background, from far away? Can environmental ethics be constrained simply to carbon footprints and greenhouse gas impacts? What about the environmental ethic of consuming acai berries, if such a purchase is not only healthful for me, economically beneficial for Amazonian natives, and environmentally beneficial to an endangered Amazonian rainforest? Does an increased carbon footprint outweigh those multiple benefits—and, more importantly, how can I determine this when I am in the supermarket looking at the berries on the shelf?

What these three examples illustrate is that there is an ethical tension[46] in each example that is based on how that product is made, where it comes from, or how it reaches us. As indicated, this situation will underlie effectively every contemporary product available in stores around us.[47] So what might this mean? The implications of such a position include the reality that in effect all food and drink consumed by Western consumers would have, to some extent or other, some level of moral wrong applicable to the action. Taking an absolute position against eating and drinking entirely, or alternatively creating a zero-impact food garden for instance is hardly a practical solution for any but a very few people. An absolute moral position can be achieved in some other situations—one might decide to become a vegan and eat no products from animals,[48] for example, or one could decide never to kill another person (or living creature),[49] no matter what the circumstances.

One may well argue that eating one packet of strawberries would make no difference to planet Earth, and this would indeed be correct. Even if I were to determine that the environmental ethics dictate that I not eat the berries, the impact per packet of strawberries would be extremely small. However, it is the cumulative impact of the transport of food around

[46] In this case I limit my reference to a negative environmental impact where the wrong-doing factor is illustrated through instrumental consequentialism in environmental ethics. However I am not excluding other factors that may also be worth of due moral consideration.
[47] Here I refer to typical urban environments and the products the average person may source therein, and explicitly exclude basic subsistence, carbon neutral production that might for example happen in many rural parts of the world.
[48] For ethically related welfare reasons for instance
[49] Pragmatically speaking, refusing to kill any living being is not an achievable goal for anyone. Such a policy implies that we never step on an ant, or kill any vermin in our homes. Furthermore, our bodies constantly 'kill' pathogens as part of the process of keeping us disease-free. Thus, having a 'no-kill' lifestyle is impossible if one is alive.

the world on a day-to-day basis, and the vast quantities of food being transported, that is the area of concern, and where the scope of the positive consumer choice can lie. The difficulty is that traditional consequentialism permits results with no definitive answer, and in examples as complex as these, having situations result in no definitive answer is not uncommon.

One alternative is to consider the consequences of a decision not on the small scale of an individual decision in an individual case, but rather to determine the environmental ethics of a choice by placing it in the context of considering consequences if the majority of people were to make that choice, and then to consider the consequences if that behaviour would be continued over extended periods of time. This is similar to the ethic of the American Indians who used a standard of conduct that insisted that major decisions had to be considered for their impact seven generations in the future, or about 150 to 200 years ahead.[50] Such a wider-scale perspective forces the individual to perceive him or herself as part of a collective community. It is the set of collective decisions of many individuals that has the power to substantially change the global environment and impact entire species of animals. Such a 'rule' consequentialism offers a way out of the dilemmas wherein consequentialist approaches simply result in indeterminate conclusions. Is it better to eat no strawberries or imported ones; to drink tap water or imported bottled water; to eat the products of endangered species or refuse to eat any such products? In most cases the dilemma is largely the result of missing, incomplete, or untrustworthy data.

Such a rule, when appended to consequentialism, provides a mechanism that offers the possibility for decisions when more traditional versions fail. It forces even individual decisions to consider the long-term impact. To be able to do such an assessment of future impact requires even individuals to consider how their decisions would change the world if everyone

[50] The Great Law of the Iroquois tribe used a rule of sustainability that determined that human decisions should be planned to benefit humanity seven generations in the future. The actual wording of the Great Binding Law says, "In all of your deliberations in the Confederate Council, in your efforts at law making, in all of your official acts, self interest shall be cast into oblivion. Cast not over your shoulder behind you the warnings of the nephews and nieces should they chide you for any error or wrong you may do, but return to the Great Law which is just and right. Look and listen for the welfare of the whole people and have always in view not only the present but also the coming generations, even those whose faces are yet beneath the surface of the ground—the unborn of the future Nation." (As quoted in "Seven generation sustainability." Web. http://en.wikipedia.org/wiki/Seven_generation_sustainability)

else (or at least a substantial minority) made the same decision. This can be considered the 'Rule of One Million." If an action seems harmless, it is wise to stop and consider what the consequences would be if one million other people did more or less the same action.

For me, I think an interesting parallel to consider is that of traffic speed limits. If, as most moral theories hold, human life is fundamentally significant and should be preserved (or some alternate interpretation that demonstrates a similar end point), and since there is a positive correlation between speeding and human deaths, then there is an argument that can be made that all cars should be banned. If cars are not banned entirely, traffic speed limits should be very low to minimize the number of deaths that result from traffic accidents.[51] However, cars are not banned and speeding limits are structured depending on the traffic, road type, and other local conditions. This in effect allows for some reasonable tolerance of human fatalities. This tolerance presumably is in place to accommodate the need for most people[52] to get around in a relatively efficient and safe manner, albeit with some amount of risk.

A similar example of this nature might be cigarette smoking – it is clear that smoking cigarettes threatens health and causes premature death. However this is allowed albeit in many countries significant taxes that deter people from smoking are in place.[53] Yet other examples include eating McDonalds hamburgers, which may lead to obesity or other health

[51] An interesting example of this arose in the 1970s in the U.S. during the oil crisis of that era. At the time, the U.S. enacted a federal law mandating a national speed limit of 55 miles per hour, along with other gas-saving (and environment preserving) rules. While the intention of the law was primarily economic to reduce gasoline usage, once gasoline supplies increased, the 55 mph speed limit was soon lifted, starting with Western U.S. states, in large part because of the sheer size of the distance long-distance truckers had to drive to carry goods between cities. Current speed limits are typically 65 mph to 80 mph, depending on state. Interestingly, traffic fatalities did indeed decline during the period of federally mandated reduced speed limits, and the probable increase in traffic deaths was a strong argument used by those opposed to increasing the speed limits again once the oil crisis had passed.

[52] That is, the need for travel for those who are not killed in traffic accidents.

[53] Again, however, the trend world-wide is to restrict smoking in public places for reasons of not affecting the health and safety of those around the smoker. Additional factors pushing for smoking restrictions are the increased costs of healthcare for smokers who are likely to develop heart disease, cancer, etc.

issues, having unsafe sex, which spreads disease or results in unintended pregnancies, and so on.[54]

I feel that this parallels the situation that arises regarding eating and drinking. I have established that eating and drinking substances that have a negative environmental impact is ethically wrong (because of the impact, not because of the food or drink itself), yet these actions may be permissible as a necessity for humans to survive. The moral tension between the consequences and the ethics across more than just my own benefit provides an important key to enabling ethically positive decisions to be made.

From this perspective, it is time to reconsider the three examples presented earlier.

Example 1: Eating Imported Foods

The choices consumers make when purchasing food are an interplay of cost, desire, enjoyment, availability and moral implications. Is it really necessary to eat the strawberries? Probably not. However there is certainly room for an argument that allows for some pleasure and this might be for some, sufficient justification to consume the strawberries regardless of the impermissibility of the action. Furthermore, there are other aspects to consider when the food involved comes from another part of the world: issues of economic benefits to needy people in developing countries, environmental benefits in the country of origin, potentially lower carbon footprints due to efficient shipping methods (i.e., trains and ships as opposed to aeroplane travel), and health benefits to the consumer that may result from that food. The difficulty with these elements of the moral scale continuum is that the average consumer has no real way of knowing the sizes of these various aspects with respect to each other. The elements are not directly comparable, and thus making moral judgments in specific circumstances is more than merely tricky, but nearly impossible.

[54] While I have not argued the wrong-making factors of these examples *per se,* I am convinced that the reader could substitute examples that might arise that are wrong, but still permissible to some extent.

This confusion and lack of specific information can lead consumers to assume that 'distant sources mean high environmental costs. Yet actual environmental impacts varies tremendously depending on what type of food is used. Figure 1 (on the following page) shows how different types of foods have quite different carbon footprints, with different aspects of the food production system (i.e., producer, transportation, warehouse, retailer, etc.) having different levels of contribution to that footprint. It is no big surprise to understand that red meats and dairy products have the largest environmental impacts. One thing that is not included in the chart is the carbon cost of highly processed packaged foods, but it is certain that the additional transportation, processing, and packaging of such foods make them more costly to the environment than similar less processed foods.

In the specified example, adding the economies of scale that derive from multiplying the action by one million tends to reduce the impact of transportation issues. Considering the impact on future generations may not be so clear cut, but there appears to be little additional impact on future generations[55]. Thus, the decision would be to eat the strawberries.

[55]Once again the notion of supply vers demand that global trends does bear some consideration as in theory, one packet of strawberries will not make a difference, but many packets will. A global trend not to eat imported fruit would likely start with only a few conscious individuals who could in fact change behavior on a global scale.

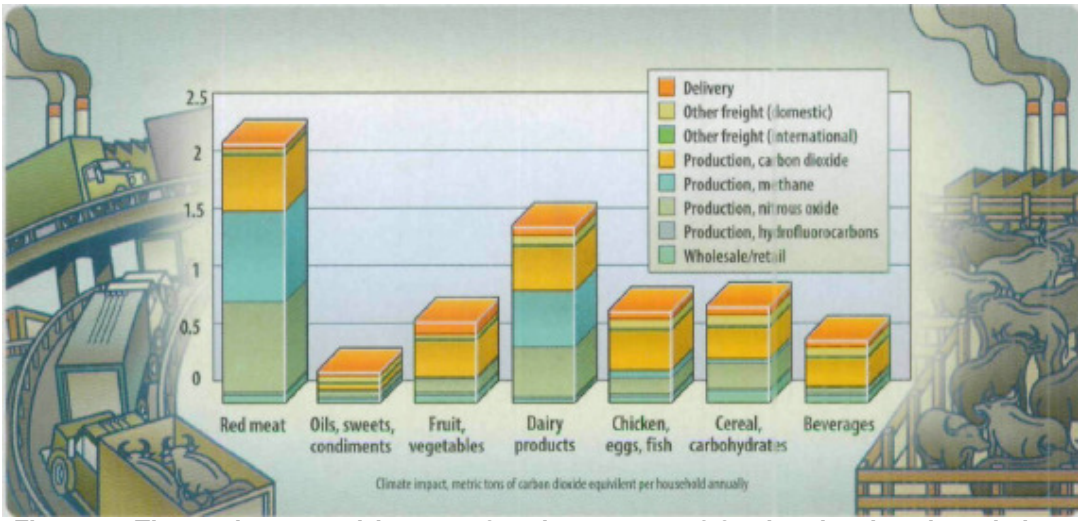


Figure 1. The environmental impact of various types of foods, showing the relative contributions of various parts of the production and transportation cycle to that impact. The scale represents metric tons of carbon dioxide equivalent per household per year. (From Rauber, 2009).

Example 2: Consuming Endangered Species or Products of Endangered Species.

In the case of the birds' nest soup, if one could determine that the nests were sustainably harvested[56] and that this consumption does not unduly affect the swift population, then eating this soup would not be problematic as the wrong making factors would not apply[57]. However, if one were to knowingly consume the last known swift nest where the babies were removed from the nest in order for the nest to be harvested and as such be responsible for the death of these last few surviving individuals, the moral consequences would be massive, and this to me would be not permissible at all. Furthermore, I would thus extend this argument to include all endangered species where the impact of the consumption might be further damage the population.

[56] For this example I am excluding other environmental impacts including transport, packaging and cooking of the nests that would in all likelihood also have a negative environmental impact.

[57] I do find a slight difference between eating nests that have already been harvested (as per my example) vs. nests that are sustainably harvested in that the latter supports a healthy, sustainable and productive lifestyle, while the former does not (in the long term) and that the power of conscious consumers could shift choices to sustainable harvesting, not unsustainable species threatening harvesting.

However, this example is not quite so simplistic as it might appear. Certain religions and medical practitioners claim[58] that consumption of certain species has a distinct medical benefit.[59] In such cases, the benefits to humans must be carefully weighed against the negative impact of the action on the animal(s) involved. An interesting parallel to draw to consider in this example of that of the belief in certain Nguni People traditional cultures that having intercourse with a virgin[60] will cure HIV. To the best of my knowledge neither the empirical nor placebo effect of this has been established, however even if it were, I would find this morally abhorrent.

While straightforward consequentialist arguments cannot resolve this case, the application of the previously suggested rule assesses consequences on the basis of 'what if everyone does this action?' and 'how does this action impact future generations over the coming one to two centuries?' Those two additional constraints should provide clear guidance in most cases. In the case of consuming or further endangering another species, it clearly adds the impact of multiplying that action by at least a million—something that is highly likely to generate extreme danger for any endangered species. With so many people ordering bowls of the soup would mean the demand for such soup would increase. Furthermore, consideration of the impact on future generations points out that further endangering the species for future generations is not an acceptable action.

The result of this is that, assuming the harvesting of the nests indeed negatively impacts the reproductive cycle of the swifts, the decision would be not to eat the soup.

Example 3: Drinking Bottled Water

Of the three cases explored in this paper, the bottled water case seems the most obvious, in that there is no real need in most cases to drink bottled water, and the bottles clog up landfills.

[58] I use claim here as I do not believe that this is the case and in the absence of established scientific fact am not likely to change my mind.
[59] I do get stuck here in that if there is a placebo effect that ensures a cure, is this sufficient basis for furthering a certain practise? Furthermore, if the claims are not based on verifiable experiments, can the claims be considered valid?
[60] These actions usually occur through rape, and in many cases involve pre-pubescent or infant girls.

Yet this example also has a counterargument, even in locations where tap water is safe to drink. For example, a tourist travelling to a foreign country might be exposed to tap water which is perfectly safe for local residents, but which, if the tourist drinks it, may well cause gastrointestinal distress. The classic example of this is tourists travelling to Mexico from the U.S., who are consistently warned to drink only bottled water—even using it for purposes such as brushing their teeth—because local organisms in the water, while safe for those who have developed a tolerance for them, can cause 'Montezuma's revenge'—diarrhea and other stomach distress. Thus, even if local water is nominally 'safe,' is it necessarily true that I should drink it? Another counterargument lies in the prospect of landfills. While landfills are indeed smelly and an eyesore, as they fill up they are typically covered with dirt, and converted into land for developments. Again, an example of that is much of the Back Bay area of Boston—currently some of the city's most expensive real estate—which began in the 1800s as a landfill. Thus, while landfills may have a short-term negative impact on the environment, is it necessarily true that they are negative over the long term? While these two counterarguments have significant validity, neither of them are of sufficient weight to overcome the effect of the arguments presented in Example 2. Thus, the correct moral decision would be not to drink bottled water if other safe options exist.

As mentioned previously I cannot conceive of any justification (unless there really is no alternative) for drinking of bottled water barring a medical need to avoid detrimental health impacts of drinking local water (as would be the case mentioned of a tourist unaccustomed to local water characteristics). However, in light of my argument, if one had to choose bottled water, this ought to be done on the basis of selecting brands of bottled water with the least environmental impact. So, selecting locally bottled water is (marginally) preferable to drinking an imported bottle of water, simply because the local bottled water has less of a carbon footprint due to much shorter transportation requirements of local bottled water. With regards to beverages, a reasonable question to ask is what then is reasonably permissible to drink? By and large, any canned or bottled beverage[61] is likely to have more environmental impact than the equivalent volume of bottled water just because processing of water (filtering,

[61] Ranging from a can of Coke, to beer or wine.

bottling) is less complicated than creating any other beverage, which would start with similar filtered or purified water, but continue with additional processing steps to add flavourings, or to brew the beverage. The more processing steps a product undergoes, the more energy it takes to produce the product and thus the greater the carbon footprint of that product.

So what should one do? Based on the formulation of making the best environmental choice, the answer would be to drink tap water. I would additionally have to concede to bottled water purists that they may be choosing to drink bottled water of a certain type for pleasure (i.e. for them the direct equivalent is not tap water as an equal alternative but rather an inferior one) and accordingly would have to agree that the moral continuum may be applicable. An alternative under some circumstances, however, might be to carry a water filter and a refillable thermos or water bottle with you, and use it to filter tap water into your container, thus providing portability and good-tasting water, while generating a minimal environmental impact.

When other beverages other than water are involved, this becomes a somewhat tricky situation. Often, the justification for consuming alternate beverages is not purely to satiate thirst, but could have an element of pleasure. As such, the continuum still exists in terms of making appropriate choices that limit the impact—choosing a local beer over an imported one, for example, or local wine over foreign ones.

Final Thoughts

So how am I, as a consumer, supposed to make a rational moral decision about what to eat and drink? One author offers reasonable guidelines for making ethical choices in food that may not be absolutely correct in all occasions, but that should present an overall movement toward moral correctness. These guidelines, (from Olsson, 2009), boil down to several simple rules:

- Eat less beef and more plant-based foods.
- Eat whole foods and limit processed products, since processed foods have significantly increased carbon costs.

- Eat locally and seasonally, buying foods that are in-season and avoiding air-freighted foods.
- When eating fish, eat lower on the food chain. This implies avoiding fish such as shark, tuna, Chilean sea bass and other deep-sea, high-food-chain choices. Preferred seafood choices include tilapia, catfish, mackerel, herring, sardines, as well as choices such as clams, mussels, and oysters, which have practically a zero-carbon-footprint to farm.
- Eat small-scale locally grown organic foods, since organic farming improves the quality of the soil and thus improves the environment and makes it more fertile.
- Reduce waste by purchasing only what you actually need and will use.

Clearly, these Olsson guidelines are far from perfect moral choices, but they do provide general rules for making reasonable judgments that are compatible with making a less severe impact on the environment, and thus being less damaging to both other species and other people.

In addition to these guidelines, I would add two rules that reflect the modified consequentialist approach discussed in this paper. These two rules are:

- The 'Million Person Rule': When determining the consequences of an action, consider the consequences if large numbers of people—a million people—replicated that action.
- The 'Seven Generation Rule': When considering the consequences of an action, consider the consequences on future generations, up to seven generations from the time of the decision (150 to 200 years in advance).

When applied to the three examples discussed in this paper, the choices these guidelines suggest become obvious:

- **Example 1, Eating Imported Fruits:** Choosing to purchase air-freighted strawberries is a borderline case; on a special occasion I would make an exception, but in general,

I would look instead for a locally grown fruit to satisfy my cravings—and if I could find it, I would make the fruit organic..

- **Example 2, Consuming Endangered Species or Products of Endangered Species:** I would choose not to eat the birds' nest soup because of the endangered nature of the swifts.
- **Example 3, Drinking Bottled Water:** I would choose not to drink the bottled water because the packaging of the water makes this a more processed food than simple tap water.

My purpose in relating back to my examples is to three key points about food choices in Western society today:

- Eating and drinking will, in general, have some negative impact on the environment.
- Humans as moral agents can make choices that mitigate against these negative impacts through careful choices of what they eat or drink.
- A moral agent should make choices that limit his or her impact on the environment.

It is of course clear that the extent to which each person undertakes these moral choices depends on their views of the importance of their moral position, their levels of consciousness and awareness relating to the impacts of their choices, and their perceived needs (real or perceived) or pleasure in relation to these choices.

If I return to my original questions: Should I be eating that? Eating, Drinking and Environmental Ethics,

Do the principles of environmental ethics create moral obligations relating to what we eat?

It is clear that there are times when I should absolutely be considering the ethical implications of what I choose to eat or not eat. Further, I have a moral obligation to take those ethical implications into account when making my dietary choices. On occasion, the choices will be relatively clear—choosing tap water over bottled water as a matter of course, for example,

and not choosing to eat or drink foods derived from endangered species. However, on many, if not most, other occasions, the ethical choice will not be as clear. Under these circumstances, deciding what to eat or not eat is impacted by a moral tension to try to determine the most appropriate ethical decision using a modified, rule-consequentialism.

Such a process is not completely satisfactory, of course, because it becomes impossible for the average consumer to avoid having negative impact on others, both other humans and the other species which shares our world. Yet to live in this world demands that we all in some respects negatively impact others. The trick is to minimize those negative impacts as much as possible.

Yet using such moral scales of 'right' and 'wrong' provides useful and generally tolerable choices that meets the consequentialist instrumental perspective from which I began addressing this question. The general rules outlined at the end of Chapter 3 provides rules that do indeed recognize the instrumental nature of being a moral agent in the world, plus the consequentialist nature of considering the ultimate consequences of actions and decisions and using those perceived consequences as moral guidelines for making choices over what to eat and drink.

The drawback to the consequentialist approach is simply that it is very difficult for an individual consumer to be sure they understand what the consequences of any particular decision would be. The brief mention of the acai berry and the Amazon rainforest is one case in point: does the environmental benefit to the rainforest, and the economic benefit to a poor, struggling segment of the world outweigh the negative impact of air freight of the berries from Brazil to the U.K.? Without clear and accurate environmental impact data available at the point of purchase, presented in a clear, compelling manner, it is impossible for individual consumers to know what the best moral choice would be.

Thus, there is an established continuum that indicates that there are certain ethical obligations that are relevant everyday decisions about what I should eat or drink. It is my

obligation to minimise the impacts that I make, and as a moral agent in the world, I can only do the best I can to make such decisions in accord with environmental ethics to the best I understand those considerations.

More than 20 years ago, J. C. Rennie, the Assistant Deputy Minister at the Ontario Ministry of Agriculture and Food delivered a speech at the World Conference on Ethical Choice in the Age of Pervasive Technology. He concluded his speech with a comment that reinforces the message of this paper:

> ...we are fast becoming the famed "global village." Our actions then must be accountable to society as a whole, and not to the society we define by language, economics or borders. As the most intelligent species on this planet we have the awesome responsibility to do right or wrong, to succeed or fail. If we make our beds, we lie in them. How we decide the beds should be made is our ethical choice. (Rennie, 1989).

Though he spoke those words 22 years ago, his description is still accurate. Human beings do have the moral obligation to bring moral and ethical considerations to decisions we make that may affect others, both human and nonhuman. We may not be perfectly accurate in determining the correct ethical choices, but if we do our best to consider the environment as an important part of the decision-making process, we have moved a significant step forward in our moral development.

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