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# Copassion and Consumption: The Difference Between Cats and Cows

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## **Compassion and Consumption: The Difference between Cats and Cows**

The animals of our world have been the driving force behind a great number of industries, from horses and mules for transportation and agriculture to the domestication of dogs for hunting and companionship. We've used and abused animals for a great many reasons in the past, but only recently has our apathy for our fellow inhabitants reached an unparalleled level of unethical indifference. This immoral tragedy is specifically in regards to our modern day livestock farming practices, endearingly referred to as industrialized farming, intensive farming, or confined animal feeding operations. The livestock industry has engaged in the mistreatment of domesticated animals on a level otherwise unprecedented in history, prompting Yuval Noah Harari to write an article entitled, "Industrial farming is one of the worst crimes in history". Harari harshly criticizes the industry's practices with citations such as, "They lock animals in tiny cages, mutilate their horns and tails, separate mothers from offspring, and selectively breed monstrosities. The animals suffer greatly, yet they live on and multiply" (Harari). These atrocities have grown with a speed correlating directly with that of our technological advancements within the recent decades. The technological advent of more "efficient" animal feeding operations, such as restricting livestock to confinements only large enough to stand up in their own feces polluted cages, has required the use of our strongest antibiotics to ensure the health of an animal while they're restricted to their cramped, disease ridden internment. We have also acquired the ability to process livestock on enormous industrial scales at an alarming pace of production, allowing slaughterhouse operations to grow in size with every year. These practices are all in order to provide for our increasing population and unrelenting demand for

poultry and protein alike.

The welfare of our livestock, while an ethically sound debate and respectable pursuit, contributes to only a small portion of the atrocities committed in the name of mass meat production. The true effects of industrialized agriculture are as vast as they are appalling and unfortunate. From the pollution of our groundwater through the pesticides and fertilizers used to feed the growing population of our livestock, to contributing the largest amounts of methane and nitrous oxide to our climate than any other industry worldwide. In regards to the former claim, David Biello reports in his *Scientific American* article, “Oceanic Dead Zones Continue to Spread”, that the runoff of our pesticides and soil rejuvenating chemicals have directly attributed to the creation of over a 100 dead zones along the coastlines of the United States, with over 400 dead zones verified worldwide (Biello). Dead zones, also known as hypoxia areas, are named so due to their dangerously low oxygen content, resulting in the suffocation and death of all animal life inhabiting the area. America’s eastern and western coasts are afflicted by this runoff of agricultural watershed and nitrogen discharge, but their degradation is miniscule in comparison to the Gulf of Mexico’s plight. Biello reinforces the importance of this research with the empirical fact that, “More than 212,000 metric tons [470 million pounds] of food is lost to hypoxia in the Gulf of Mexico... That's enough to feed 75 percent of the average brown shrimp harvest from the Louisiana gulf” (Biello). The seriousness of the situation is stressed by the National Oceanic and Atmospheric Administration (NOAA) in their a report entitled, “2015 Gulf of Mexico dead zone ‘above average’”, which reports figures such as, “This year’s Gulf of Mexico dead zone... is, at 6,474 square miles... an area about the size of Connecticut and Rhode Island combined” (NOAA). Statistics like these quickly make it apparent that the Gulf of Mexico’s wellbeing is no small matter in regards to the population of underwater wildlife, the

viability of commercial fishing, and the oceanic environment's health as a whole. The Gulf of Mexico ranks second only to the Baltic Sea as the largest dead zone in the world, correlating directly to the Mississippi River's unrelenting disposal of nitrogen and phosphate rich, oxygen depleting chemicals discarded by our agriculture industry. The Mississippi River's role as the third largest river is described by the Environmental Protection Agency's (EPA) informative on "The Mississippi/Atchafalaya River Basin (MARB)", which concludes within that, "parts or all of 31 states plus two Canadian provinces drain into the Mississippi River" collectively draining an astonishing 41 percent of the contiguous United States into the Gulf of Mexico (EPA). The area of concern covers the entirety of what we refer to as the Midwest, which predominantly holds the majority of our crop farms and collectively aggregates at the mouth of the river in the Gulf of Mexico. The chemicals destroying the Gulf's ecosystem are inadvertently feeding a species of algae to a state of overgrowth, in turn decomposing and consuming the oxygen required by marine wildlife to live. Our environment cannot sustain these levels of pollution and deterioration, as it's leading to the extinction of entire species while simultaneously inhibiting the ability of new aquatic wildlife to populate it. **Our lack of innovation within industrialized farming practices combined with our public's lack of education and inability to dismiss the common misinformation has contributed directly to the exponential increase of our environment's demise through our unregulated release of greenhouse gases and general apathy towards our climate and livestock's wellbeing.**

As our coastlines and groundwater are continuously plagued with chemical runoff and hypoxification, the wellbeing of our scarce freshwater reserves become an interest in themselves. For the limited supply of our freshwater reserves is only becoming more critical. The United States Geological Survey (USGS) writer Howard Perlman summarizes the entirety

of our planet's water and its distribution in an article entitled "The World's Water". Wherein it concludes only 2.5 percent of our water on Earth is freshwater, with 68.7 percent accounted for within glaciers and ice caps, unable to be consumed as sustenance. The remaining freshwater is accounted for with 30.1 percent concentrated as groundwater, leaving only 1.2 percent of drinkable water accessible from the surface (Perlman). With the understanding of how finite and necessary freshwater is to the prosperity of life, we must take care as to not contaminate or selfishly consume it with no regards towards our future generations. Unfortunately, there are those who still go thirsty and struggle for the essential human right that is water. With this perspective the dreadful rate at which the animal agriculture industry unnecessarily wastes and over-consumes water becomes a tragic imperative.

Confined animal feeding operations reliably consume water at a rate higher than any other industry within America, mainly due to the irrigation of the crops that are required to feed the livestock, but the direct consumption by the millions of animals is also a contributing component. Within the Food and Agriculture Organization's (FAO) environmental awareness report, "Livestock's Long Shadow", the aggregate global land permanently contributing to producing crops to feed livestock is, "33 percent of global arable land" as well as concluding that, "agriculture accounted for 70 percent of water use and 93 percent of water depletion worldwide"(FAO). Mekonnen and Hoekstra's 2012 research paper entitled, "A Global Assessment of the Water Footprint of Farm Animal Products" reinforces this by narrowing the aforementioned global figures with their findings of, "Nearly one third of the total water footprint of agriculture in the world is related to the production of animal products" (Mekonnen and Hoekstra). This unfathomable area of land, suitably described as arable, takes into consideration that crop cultivation cannot prosper in a large portion of the globe, such as

deserts and mountainside. This allocation of land mass provides an immeasurable perspective as to these farms' global footprint and water requirement in order to maintain efficient annual harvests.

The United States is no exception to this massive drain on resources, as the United States Department of Agriculture (USDA) Economic Research Service presented an equally surprising figure in their 2015 report "Irrigation & Water Use". Wherein, they decisively report that the USGS, "estimates... irrigated agriculture account[s] for 38 percent of the Nation's freshwater withdrawals in 2010. Agriculture, however, accounts for approximately 80 to 90 percent of U.S. consumptive water use" (USDA ERS). This immense water demand is more easily accepted when the United States' livestock population is understood to be fluctuating around 523 million head of livestock as per the USDA's report "Overview of U.S. Livestock, Poultry, and Aquaculture Production in 2014". This figure collectively accounts for 90 million dairy and beef cattle, with the remaining population consisting of 360 million poultry fowl, 66 million swine, and 7 million smaller mammals (USDA). With the livestock population totaling nearly twice the human population in the US, it's easy to see how the freshwater requirement for livestock becomes a troublesome dilemma. To provide reinforcing perspective, the previous paper by Mekonnen and Hekstra reported that one pound of beef requires roughly 1,800 gallons of water to produce (Mekonnen and Hekstra). That in turn means one taco night dinner recipe, calling for one pound of hamburger meat, is the equivalent of taking nearly three and a half months of daily eight minute showers. Therefore, our daily water footprint is dictated predominantly by our consumption of meat rather than daily showers and drinking water. This in turn rightfully justifies the advocacy for the minimization of meat allocated to one's personal diet in an effort to drastically reduce our water consumption impact.

The rippling environmental effect of the intensive farming industry is far reaching and substantial, both in its contribution to freshwater consumption and pollution as well as subjecting the susceptible land required for these operations to massive desertification and nutrient depletion. For the amount of land utilized to have such an impact on our coastlines is truly incomprehensible. It is calculable, though, as Cornell University's David Pimentel did precisely that in his research paper "Livestock Production and Energy Use," concluding the industry's footprint to be 302 million hectares of land out of the 808 million the United States has available (Pimentel). Also, in the aforementioned UN environmental report, they continue on to cite that a total of 30 percent of American land is dedicated to permanent pastures, while they simultaneously account for "33 percent of the global arable land used to [produce] feed for livestock" (FAO). However, this land is not an abundant and replenishing resource and is declining rapidly as 20 percent of the pastures we utilize at the moment are considered degraded (FAO). The artificial eroding of pasteurized land from the overgrazing of livestock has led to massive desertification of once flourishing habitable environments. This series of unfortunate circumstances doesn't stop there though, as these lands are obviously not desert to begin with, and only select portions of the world are suitable for grazing and crop cultivation. As our current grazing pastures and cropland are desecrated and becoming progressively more desertified, we turn to our rainforests for acceptable farmland. Unfortunately, the deforestation and mass burnings over the decades have only continued, all in a direct effort to supply more land for grazing and livestock feed production.

The downfall of our beautiful South American rainforests is not uncommon knowledge at this point, although the true reasons and contributing factors have been found to be far less commonplace. According to the experts cited in *Scientific American's* article, "Measuring the

Daily Destruction of the World's Rainforests” by Moss, “we are losing upwards of 80,000 acres of tropical rainforest daily and significantly degrading another 80,000 acres every day on top of that” (Moss). With nearly an acre of rainforest destroyed every second, the urgency of the rainforests’ demise becomes clearly apparent. Unfortunately, this is the best, or lowest, rate of deforestation we’ve seen since its documentation dating back to the 1970s. Environmental economist, Rhett Butler, reports on this in his continued research, starting in 2000, on “Amazon Destruction”, wherein he writes, “Cattle ranching is the leading cause of deforestation in the Amazon rainforest... [Brazilian] government figures 38 percent of deforestation... today the figure in Brazil is closer to 70 percent” (Butler). Our increase in portion sizes and easily accessible diet of meat has been the tragic downfall of our South American rainforests. The environmental cost of raising these cattle in such quantities just to supply the growing size of supermarket shelves, which inevitably end up wasteful when large portions go unsold, was precisely the motivation of Dana Gunders’ research report with the National Resource Defense Council entitled “Wasted: How America is losing up to 40 percent of its food from farm to fork to landfill”. Gunders’ report provides a unique perspective with quantified numbers, concluding within that:

Getting food from the farm to our fork eats up 10 percent of the total U.S. energy budget, uses 50 percent of U.S. land, and swallows 80 percent of all freshwater consumed in the United States. Yet, 40 percent of food in the United States today goes uneaten. This not only means that Americans are throwing out the equivalent of \$165 billion each year, but also that the uneaten food ends up rotting in landfills as the single largest component of U.S. municipal solid waste where it accounts for a large portion of U.S. methane emissions. (Gunders)

Our South American rainforests have shouldered a burden of constant demolition and the eradication of hundreds of unique fauna and flora all in an attempt to sustain our stubborn carnivorous desires. As it stands, industrialized farming is the leading contributing factor to deforestation, as both a source for livestock grazing pastures as well as farmland to grow the livestock's feed. It is a misuse of our responsibility, as the rational creatures on Earth, to trade our planet's overall health for overstocked shelves of a maximum variety of meats, especially with no official plan to stop, but instead continue forward with no moral regard for our environment or future generations.

The health and prosperity of our rainforests are of the utmost concern when considering plausible fixes to our climate's downfall. These rainforests are vital components in our fight against the growing carbon count and climate crisis, as they absorb much of the carbon released by human activity. The importance and vital function that our rainforest provides cannot be overstated; Brienen et. al. establishes the gravity of the situation in their research paper entitled, "Long-term decline of the Amazon carbon sink", in which they cite their findings that, "from a peak of two billion tonnes of carbon dioxide each year in the 1990s, the net uptake by the forest has halved and is now for the first time being overtaken by fossil fuel emissions in Latin America" (Brienen et. al.). Over the course of their thirty decades of continuous research on the area, they've deduced the rainforest's declining ability to absorb carbon to directly correspond with the trees' increased mortality rate. The declining population of trees is directly reflective of our climate's increased carbon count and will need to be rectified in order to counteract the climbing greenhouse gas emissions. We are effectively doubling down on our destruction of the environment by pouring greenhouse gases into the atmosphere while tearing down the largest equalizer we have to counteract the unfortunate

circumstance we've found ourselves in.

It's not only our water and land that need to be monitored and safeguarded from the resulting effects of factory farming. As it stands, industrialized farming is one of the leading contributors to global warming and climate change; more precisely, it is the largest contributor of nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) greenhouse gases. These gases aren't normally the ones you hear of when speaking about global warming, though. Instead, carbon dioxide (CO<sub>2</sub>) is most notably the central component on discussions concerning our climate's state. However, this isn't without merit, as the U.S. Environmental Protection Agency (EPA) states in their 2014 report "Overview of Greenhouse Gases", that "In 2013, CO<sub>2</sub> accounted for about 82 percent of all U.S. greenhouse gas emissions from human activities" (EPA). The real world impact these gases contribute individually is rarely understood or noted, but in fact turn out to be far more important than simply the quantity of them. When this simple fact is revealed, it paints a surprising difference when considering which of these gases we should be most concerned with. The impact each gas has on our environment is measured by the EPA in units of global warming potential (GWP) over a term of 100 years. The GWP attributed to the gases mentioned previously are all given a baseline of one pound of CO<sub>2</sub> having the equivalent global warming potential of 1; while methane scores between 28-36 GWP and nitrous oxide a staggering 298 GWP. That means methane has roughly 30 times the warming ability of CO<sub>2</sub> and nitrous oxide's ability to warm the atmosphere is nearly 300 times the impact of one pound of CO<sub>2</sub> (EPA).

These unfortunate circumstances are verified by multiple sources, but none more reputable than the preceding UN environmental analysis, "Livestock's Long Shadow". Wherein it reports, "Livestock contribute 18 percent of all CO<sub>2</sub> emissions, 37 percent of

methane emissions, and a staggering 65 percent of nitrous oxide emissions to the environmental climate change” (FAO). The three gases listed here are the essential gaseous compounds attributed to climate change and when chlorofluorocarbons (CFC) are added to the list, they are collectively referred to as greenhouse gases. The most prominent greenhouse gas, by a large margin, is carbon dioxide, contributing as much as 80 percent of all the gases. Conversely, CO<sub>2</sub> has the least effective global warming potential of all the gases listed, with CFCs ranking the highest at levels up to 22,800 GWP, reinforcing the decision to outlaw them with the international treaty entitled, The Montreal Protocol. As impressive as these numbers may be, it’s not precisely the final word on the matter, as Goodland and Anhang, along with two specialized agencies within the United Nations, collaboratively wrote the research paper “Livestock and Climate Change”, wherein it concludes, “51 percent of all human-caused greenhouse gas is attributed to livestock” (Goodland and Anhang). The aforementioned report attributes the difference in numbers to the FAO overlooking livestock respiration and land usage, as well as undercounted methane figures. Regardless of the statistics you wish to believe they are both as staggering as they are reprehensible; we have an epidemic on our hands and we have barely begun to even acknowledge it.

In total, intensive livestock farming contributes essential components to one of the most widely debated controversies of the 21st century - climate change. It is as formidable as it is misunderstood but the irony in the matter is that it’s been equally as scientifically researched and factually documented as it has been extensively debated. Debates are perceived by the public as an educated attempt to find a concise logical conclusion to controversial topics. Yet, the subject matter remains equivocal to our most influential leaders and government officials, leaving it to be merely debated instead of rallied around in an attempt to resolve. The perpetuation of these

debates to invalidate climate change's factual existence is effectively devaluing the ongoing struggle towards rectifying the situation, and instead shifting focus to its legitimacy. While politicians bicker if it is real at all, the consensus is in and as of 2016, John Cook et. al. have published a peer reviewed environmental research paper entitled the, "Consensus on consensus: a synthesis of consensus estimates on human-caused global warming". Reining in with a collective total of nearly 12 thousand research papers reviewed, they ultimately establish that 97 percent of all scientists with climate expertise collectively agree that the causation of global warming is directly attributed to humans (Cook et. al.). The factual evidence of scientific research like this must become more consistent common knowledge among both public and government officials if we wish to counteract the climate's deteriorating condition. We have solidified the empirical existence of climate change through the exponential increase in greenhouse gases and the radical change in our climate. The continued release of unregulated livestock related greenhouse gases will only accelerate if we insist on holding debates rather than assemblies of reclamation. We must come to trust our scientific communities and change our ways because of these discoveries, or we must watch as this compassionate, diligent research simply goes to waste.

With climate change being fueled at such an exponential rate by so many various sources, it's truly a bleak looking future if we do not change our ways. This is nothing that hasn't been said before, though. The climate's demise has been estimated in its entirety by Fiona Harvey's article, "World Headed for Irreversible Climate Change - IEA" for the United Nations University, wherein she states, "if current trends continue... by 2015 at least 90 percent of the available "carbon budget" will be swallowed up by our energy and industrial infrastructure. By 2017... the whole of the carbon budget will be spoken for" (Harvey). The carbon budget

referenced within is defined by the World Wide Fund for Nature (WWF) in their report on “Understanding Carbon Budgets”, as “a tolerable quantity of greenhouse gas emissions that can be emitted in total over a specified time” (WWF). Harvey’s quoted statement was written in 2011 and our estimated emissions have only increased since then. The projection that is unanimously agreed upon by the scientists involved within climate studies is that we must change or we will perish. Yet, as it stands, common knowledge does not perceive industrialized farming and climate change, or the colossal scale of destruction our environment endures, as a conjoined complication. The urgency to eliminate this misinformation and instead spread the truth of the matter cannot be overemphasized. Our world requires compassion from us as we share this environment with one another, the wildlife, and nature itself, yet we are stuck in our selfish, entitled ways.

Regardless of these overwhelming facts there is always an opposing viewpoint and two sides to every story. These massive confined animal feeding operations do not simply operate themselves after all and although there are great efforts towards automation in an attempt to make the procedure more efficient, human hands are still required for some of the more nightmarish portions of the process. These people come in no small number, either; according to the USDA Economic Research Service’s census of “Farm Labor”. They state within that the employment population fluctuates vastly by season, inevitably specifying that, “in 2012, the total was 1,063,000 [positions] of which 576,000 were full-year positions, 199,000 were part-year positions, and an estimated 288,000 were agricultural service workers brought to farms by contractors”, the mean of which are compensated at an average hourly earnings rate of roughly \$11.00 an hour (USDA ERS). The job opportunities these industrialized farms provide are without out a doubt sustaining nearly 1 percent of the United

States' population, but at a great and unfortunate cost to both the wellbeing of our environment as well as the workers wellbeing.

Author and animal activist Mark Hawthorne describes the traumatic and inhumane working conditions in his article "Inside the Life of a Factory Farm Worker", wherein he provides insight into the daily misery Alex Bennett endures within a poultry slaughterhouse to provide for his family, solemnly quoting:

The terrified chickens fight back, pecking and biting the hangers... despite the protective coverings, he says, feces from the frantically flapping birds ends up everywhere. "It gets into your eyes, your nose, your mouth, your ears. There is no adequate description of what it's like to stand on the line for hours and have the chickens defecate all over you... No one enjoys slaughterhouse work; it's grueling, violent, dangerous, and repetitive. There aren't many people—even hardcore meat-eaters—who could tolerate the viscera and the frenzied pace, and with an average wage of \$11.42 an hour (\$23,753 a year), many meatpackers struggle to provide for their families. (Hawthorne)

With such an extraordinary perspective provided of the inner workings of the industry, one must then contemplate the true necessity of such unethical operations when both the wellbeing of the employees and livestock are at risk. The practicality of utilizing an industries employed population as an argument in favor of continuing its operations is more so emotionally appealing than it is factually sound. As the replacement of such industries would in turn require the new environmentally conscious industries and farms to provide an equivalent force of employment in order to provide for a growing global population. Our requirement for sustenance will only rise with the population, after all, and there are plenty of crop farms already in existence that do not

require such appalling work conditions at the sacrifice of personal morals or health.

Although the financial wellbeing of migrant livestock farm employees are ethically justifiable concerns, it is not the first conclusion most come to when debating the necessity of meat in a human's diet. In fact, there are quite a few people that assert the importance of meat protein in a human's diet is in fact a fundamental necessary for both survival and growth. This is precisely the stance Kadya Araki takes when writing her article entitled "Why All Humans Need to Eat Meat for Health", wherein she writes on the importance of animal protein in a human diet. The meat of her argument is decisively centered on the idea that "Our genes were developed before the agricultural revolution, when we were not only meat eaters, but enthusiastic ones at that" (Araki). In her article, she places emphasis on our present day diseases such as heart disease, obesity, and type two diabetes while stating, "with the introduction of grains and processed foods, these diseases reared their ugly heads at alarming rates" (Araki). The flaw in this logic is that we live under vastly different circumstances than those who lived thousands of years before us as hunter and gatherers. To attribute such diseases entirely to our diets and not our lifestyles is ignorantly dismissing factual medical evidence that those diseases are incited by far more than one's diet, especially one consisting mainly or entirely of vegetables. Not only is the apparent concern for our wellbeing not directly attributed to our consumption of meat, but there are in fact studies that conclude precisely the inverse of what Araki states.

According to the World Health Organization's agency, the International Agency for Research on Cancer's (IARC) publication, "The Lancet Oncology", processed meats are contributing negatively to our overall health. Within this published paper they have "classified processed meat as a carcinogen, something that causes cancer" (IARC) as of October of 2015.

The classification of processed meats include America's favorite hot dogs, bacon, deli meats, and sausage, more specifically any meat that has been treated in order to preserve it longer or flavor it artificially. They list these processes as "salting, curing, fermenting, and smoking", simultaneously including red meats such as pork, beef, and lamb (IARC). The specific cancers that have been attributed to these meats been reviewed by over 800 studies, by twenty-two subject matter experts across ten separate countries, coming to a concise conclusion that "eating 50 grams of processed meat every day increased the risk of colorectal cancer by 18 percent... the equivalent of about 4 strips of bacon or 1 hot dog" (IARC), as well as pancreatic and prostate cancer are cited as risks of eating the red meats listed previously (IARC). Little is left to the imagination at this point, as intensive farming practices consistently embrace the more efficient production of processed meats while disregarding the more ethically just methods we operated with prior to the 1970s. We have inadvertently found ourselves in a predicament which we must confront or be found wanting, as ignorant consumers.

Within the last four decades, small town family farms have given way to industrialized farming practices. Laying the foundation for a perpetually growing industry that confines and condemns livestock of all kinds to unethical atrocities unparalleled in our history while simultaneously victimizing all of humanity, ignorant and educated alike, to a future of seemingly unavoidable consequences. Our generations of many are now unjustly burdened by the actions of a few who've unfairly deemed the unregulated industry of confined animal feeding operations justifiable and an appropriate response to our expanding populous. Our groundwater is perpetually polluted at a rate of 1.3 trillion tons of manure every minute (USDA), amassing enormous unregulated fertilizer cesspools, which inadvertently pollute the local air and drain into our groundwater, rivers, and eventually the ocean coastlines. The plight of our graceful

oceans are no more tragic than the inspiring rainforests that are being carelessly burned and bulldozed with no regards to the essential resources our civilization will ultimately need. Humanity need not think too far into its ill-fated future, for if our industry of carnivorous consumption is not rectified and reconstructed in its entirety, our climate's toxic condition will continue to deteriorate our environment into an uninhabitable condition. Our public's knowledge in regards to the all-encompassing effects that intensive animal farming has fated us with, has unfairly placed us between our moral obligation to do what is right for our future and environment, and our inclinations for consuming animal protein. Carrying on in ignorance or apathy has been empirically proven to assert that we are fast approaching an inescapable downfall to the harmony our delicately susceptible Earth balances upon.

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