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Caged Reality

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Green trees are painted onto the concrete walls of an elephant's enclosure, in hopes of providing a more "natural" environment. Beyond the prison-like pillars encaging the desolate pen, a single blue ball lies stagnant. This elephant's enclosure is complete with "windows of bullet-proof glass and gates of heavy steel" (Pruden, par. 1). For 42 years, this elephant house has been Lucy's home at the Edmonton Valley Zoo. Lucy's living conditions and illnesses are a subject of growing controversy and have garnered attention from animal activists to celebrities. Bob Barker, the host from *The Price is Right,* "points to the bitter Canadian cold, to the starkness of the elephant house, and, most of all, to the fact that she is alone, as evidence that she is not only unhappy in Edmonton but that she is suffering" (Pruden, par. 44). As elephants are very social animals, Lucy faces mental distress due to her loneliness. The Edmonton Valley Zoo states that she also suffers physically from arthritis and a "respiratory problem that makes it difficult for her to breathe when she is under stress" ("Lucy's Care"). Lucy is in a catch-22 situation. Due to Lucy's severe breathing problem, moving her to a warmer climate would be life-threatening; however, the cold Edmonton weather aggravates her arthritis joint pain and possibly exacerbates her respiratory issue. Lucy exemplifies the endless debate about animal welfare in captivity and calls into question whether or not the existence of zoos is ethical. Although captivity may provide relative safety and increased accessibility to medical treatments, most animals endure emotional trauma as a result of confinement and ultimately suffer in their artificial environment.

While animals were once exploited for entertainment and profit in zoos, the current focus of zoos has shifted more towards awareness, education, and conservation of animals. The protection of animals, especially endangered species, is one of the main arguments for keeping animals in captivity. Jennifer Gray, the author of *Zoo Ethics*: *The Challenges of Compassionate Conservation,* claims that "human care may offer protection from the physical pain and suffering" (Gray 73) that animals experience in the wild, as they are "protected from predation,

hunting, and disease" (Gray 73). However, the promise of protection for endangered species is compromised due to increased criminal activity. Many "rare, endangered or exotic animals" ("The Rainforest Site," par. 7) are stolen from zoos and sold on the lucrative black market. Despite being protected under the Convention on International Trade in Endangered Species, a pair of highly endangered golden lion tamarins and their offspring were stolen "right out of their enclosure, likely by professional animal dealers" ("The Rainforest Site," par. 1) at the Krefeld Zoo. Not only are countless zoo animals stolen, but some are also poached for their valuable body parts. In 2017, poachers broke into France's Thoiry Zoo, killing Vince, a four-year-old white rhino, whose species is on the brink of extinction. Despite surveillance cameras and staff members living on-site, Vince's horns were "hacked off by a chainsaw" (Actman, par. 2). This appalling act shows that endangered species in zoos are targeted by poachers, just as they are in the wild. Nonetheless, Jorge Cassinello, an expert in zoology, highlights that "Zoological institutions make huge efforts in keeping and breeding endangered species, with a view to preserve them from extinction and, ideally, to reintroduce them back into their natural habitats" (Cassinello 453). Despite this intent to preserve the species, Cassinello's investigation into the interbreeding of captive gazelles actually concluded that captive breeding "increase[s] extinction risk," due to the "loss of genetic diversity" (453-454). However, as zoos strive to maintain genetically diverse populations, the process of culling involves the euthanization of "surplus" animals. At the Copenhagen Zoo, a healthy giraffe named Marius was slaughtered because he was deemed a "surplus animal" (Goldman, par. 1) due to his genes being "already sufficiently represented in the giraffe population" (Goldman, par. 1). Because Marius was not "add[ing] or help[ing] to maintain genetic diversity" (Young, par. 8), he was allegedly "taking up limited and valuable space" (Young, par. 8). These instances clearly display that the zoos' fundamental principle to preserve endangered species is flawed due to breached security, persistent poaching, and the decreased genetic variability in captive breeding.

While zoos may provide relief from physical pain and suffering experienced in the wild, Gray argues that emotional suffering is induced by captivity, as pleasure and satisfaction are missing from the animals' lives (73). Applying Maslow's psychological theory of a hierarchy of needs, Gray proposes that animals also have needs that must be fulfilled. An animal's basic physiological and safety needs are met in captivity, while the higher order needs are not (Gray

73). In the context of animals, the highest need, known as self-actualization, is "allowing them to live in the niche they have evolved to fill" (Gray 73-74). Due to human interference, an animals' niche is never truly satisfied in captivity, such as predatory cats getting their meals served instead of unleashing them to hunt. Professor Heini Hediger explains that a wild animal's niche consists of being "constantly preoccupied with the impulses to avoid enemies and to seek food" (158). Once in captivity, animals lose sense of their niche and, consequently, their purpose in life. As animals are wired to fulfill their niches, the absence of purpose in captivity results in "emotional suffering," which includes "fear, frustration, boredom, isolation, induced loneliness or depression" (Gray 72). In order to communicate observations of animal behaviour, researchers often anthropomorphize animal emotions. This allows for speculation of the animal's welfare, as behaviours and physical responses are "indicator[s] of the internal state" (Gray 65). Professor Mark Bekoff, who co-founded Ethologists for the Ethical Treatment of Animals with Jane Goodall, acknowledges that anthropomorphism must be done "biocentrically" (Bekoff 11), meaning that the animals' point of view must be taken into consideration to avoid anthropomorphic fallacy.

Although some skeptics may argue that animals lack any sort of "emotional life" (Bekoff 9), neuroscientific research has revealed that there is anatomical evidence of emotion in animals. By discovering all mammals share neuroanatomical structures that are involved in the control of emotions, such as the amygdala and the hippocampus, it proves that animals are capable of experiencing emotion. Through studies using functional magnetic resonance imaging (fMRI) technology, elephants were found to have a "huge hippocampus" (Bekoff 9). This brain structure is involved in processing emotions, proving that elephants are "very sensitive beings" (Bekoff 8). Due to their sensitivity, it was also shown that "social trauma can affect their physiology, behaviour, and culture over generations" (Bekoff 8). It is proven that elephants may suffer from post-traumatic stress disorder (PTSD) (Bekoff 8). Because elephants have such strong family bonds in the wild, it is possible that Lucy could suffer from PTSD, as she has no companions at the Edmonton Valley Zoo. However, mammals such as Lucy are not the only animals who suffer in captivity. Another breakthrough in the scientific discovery of animal emotion is the presence of spindle cells. Before, these specialized cells that are involved in social organization, empathy, and processing emotion were thought to be limited to humans and apes (Bekoff 8). However,

spindle cells were recently found in humpback whales, fin whales, sperm whales, and orcas (Bekoff 8). This realization that orcas have the capacity to experience emotion can be linked to the orca's collapsed dorsal fin, that occurs while in captivity. One belief is that a collapsed dorsal fin is related to depression in captive orcas, due to confinement and isolation in their concrete tank (Pagnotta, par. 3). Because of the physiological evidence of animal emotion, there is an opportunity for scientists to pursue future research relating to mental health in animals.

Based on behavioural observation and research, a new concern has arisen for captive animals' mental well-being. In zoos, there have been several reported cases of stereotypic behaviour: "an invariant, repetitive behaviour pattern with no apparent goal or function" (Sawe, par. 1). These behavioural disorders may include pacing, circling, excessive grooming, and even self-harm. An example of self-mutilation is feather picking in captive birds, such as the black vulture. In severe cases, a bird's aversive behaviour may extend from plucking feathers to the "excision of the skin" (Bouchenot 38). Orcas also display self-harm by "banging their heads against the sides of their tanks or against the separation gates" (Marino et al. 74). These unusual behaviours are not observed in the wild, signifying that confinement has detrimental effects on an animal's mental health. In response to stereotypic disorders, zoos administer antipsychotic drugs, such as "Prozac and Valium to giraffes, badgers, gorillas, and bears to help them cope in the unnatural habitats they live in" (Sawe, par. 4). Evidently, diagnoses of depression and anxiety in zoo animals are on the rise.

Vint Virga, a veterinary behaviourist, has been involved with several encounters of mental illness and emotional suffering in captive animals. Earlier in his career, Virga witnessed a clouded leopard who expressed symptoms of severe clinical depression. The clouded leopard displayed stereotypic behaviour as "she had licked her majestic tail bald" (Halberstadt, par. 23) and spent her time perched on a tree branch with a "vacant, faraway expression" (Halberstadt, par. 23). There were several attempts made trying to coax the leopard to engage with her environment; however, she remained unresponsive. Analyzing the leopard's behaviour, Virga concluded that "she had lost all interest in her world because it offered her nothing to do or to explore" (Halberstadt, par. 24). Clouded leopards are naturally solitary creatures, so they struggle to adjust to their cramped and exposed environment. Virga stated the clouded leopard had "lost

her will to live" (Halberstadt, par. 24). In contrast, Virga observed a gibbon named BaHee, who seemingly enjoyed captivity, as he was a "showman" (Halberstadt, par. 26). Regularly, BaHee would interact with the visitors by placing his hand on the glass to match the hand of the visitor, performing tricks and making faces. BaHee's behaviour changed drastically once Gloria, his companion, was euthanized, as he "ate less, moved less and sometimes refused to go on exhibit" (Halberstadt, par. 28). Virga suspected that BaHee was clinically depressed, and his abnormal behaviour was caused by grief. Because cases of depression are undocumented in the wild, Irene Pepperberg, a comparative psychologist, suggests "an animal in the wild can't afford to be depressed" (Halberstadt, par. 17) because "it will simply be killed or starve, since its environment requires constant vigilance" (Halberstadt, par. 17). In confinement, their survival instinct is diminished, which fosters depression in some animals.

Zoo enclosures are a primary source of an animal's emotional suffering. The artificiality and constrictive nature of the enclosures, such as their "fake grass being electrified" (Worland, par. 30), causes many animal's mental well-being to deteriorate. Exposure to visitors also greatly affects various animals' anxiety and stress. In mammals, stress can be measured through fecal cortisol levels and behaviour patterns (Thangavel et al. 20). Studies analyzing raised cortisol levels of animals in captivity have shown that zoo visitors affect animal welfare. In one study, it was found that the presence of visitors also elicited abnormal behavioural responses in penguins, such as "immobility, retreat or avoidance, vigilance, huddling, reduced preening and aggression" (Chiew et al. 3). In a zoo, animals are subjected to various forms of stimulation and are "exposed to sound levels exceeding those to which their species is naturally adapted" (Jakob-Hoff et al. 2). These unnatural stimuli cause distress in animals. In order to provide better animal welfare, zoos will renovate enclosures to create a better environment for the animal, but the construction itself may inflict more harm on the animals. A study was conducted exploring the consequences of construction noise on an animal's well-being. It was discovered that "prolonged exposure [to construction noise] can induce a state of chronic stress that can have deleterious effects on reproduction, immune status, growth and increased sensitivity to acute stress" (Jakob-Hoff et al. 2). This clearly displays that even when zoos attempt to provide a better quality of life for animals, they still ultimately worsen it. No matter how much a zoo may try to accommodate an

animal's mental and emotional needs in their enclosure, these facilities cannot replicate the true surroundings of the wild.

In captivity, an animal's life is entirely constructed by humans, down to "breeding, food, environment and even social structures" (Gray 71). These artificial circumstances result in aversive animal behaviour, such as stereotypy, and the development of psychological disorders like depression and anxiety. In humans, depression is linked to both genetic and environmental factors. Consequently, considering how animals are neurologically related to humans, is it possible that captivity is breeding depression in the animals? Some people may argue that zoos provide better overall health to the animals due to the accessibility of veterinary medicine; however, animals are now being prescribed antidepressants to cope with their confinement. When animals are in the wild, they do not need antidepressants because they are preoccupied with fulfilling their natural niche. Jon Coe, a zoo designer, proposes that "zoos could face new competition from virtual-reality technologies" (Worland, par. 20). Cameras could be set up in the wild, providing people with an "up-close experience without their having to leave home" (Worland 20). This revolution would tremendously benefit the animals, as they would be able to escape the public eye and roam beyond their exhibit. Hopefully, through this newly proposed zoo concept, Lucy and all animals alike will be able to break free from the chains of captivity, eliminate their emotional suffering and live in the wild as nature intended.

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