Rethinking the Significance of the London Zoo and its Animal Habitats

Figure 1

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Contents:

Introduction:

This dissertation discusses the significance of The ZSL London Zoo hence looks for a symbiotic relationship of humans and animals through designs and concepts based on the London Zoo's history and comparison to several case studies.

Zoo was initially called zoological gardens; it's an area that kept different animals for various research purposes and entertainment. However, the uses and objectives have changed according to humans' history,

The ZSL London Zoo will be the main site for this dissertation to focus on, as it is the oldest scientific zoo in the world and still is an excellent attraction in London. Sir Stamford Raffles founded the Zoo after his colonization in Asia; it was opened to members of the zoological society for scientific research in 1826, then officially opened to the public in 1828. ZSL stands for Zoological Society of London. Despite facing the threat of closure, London Zoo continues to operate in a changing mindset throughout history; the change of ethical thinking and treatments on animals from a social perspective can be presented in this essay by discussing the zoo's status and architecture through different times.

The chapters will be marking different timelines, from the start of the zoo to today. Chapter 1 will be a journey back to the Victorian Era 1828-1901, when we can dig into the darkest time in zoo's history. Society had a different mindset on animal treatments; animals in zoos were only items trading through markets. Worldwide collections, caging displays, and the core idea of the zoo being entertainment as "Animal Kingdom" will be the main topic in this chapter.

Chapter 2 will be a connection for Chapters 1 and 3. Berthold Lubetkin will be used in the stamp to draw out the changes made to animal display during the first reform of the London Zoo in the early 20th century. The symbiotic relationship will also be mentioned in this chapter. Last but not least, in Chapter 3, I will be presenting several areas in the London Zoo I visited as my primary researches, discussing various animal habitat designs and looking for the connections between humans and animals in them. Lands of the Lions, this latest area, will be seen as a reflection of the history of the London Zoo itself. In this last chapter, case studies from other places will be used for comparison to the London Zoo, giving possibility in symbiotics between humans and animals according to the existence of zoological facilities.

Chapter 1: 1828 – 1901, Victorians and animals, Ownership, Classes and Displacement

In this chapter, the origin of the London Zoo will be introduced, the approach of animal collecting displays and entertainment. Hence including the Victorian age's thoughts and treatments on animals.

Victorian Era, Promotion of Science, the origin of the London Zoo

The Victorian Era is commonly known as the golden age for the British Empire according to unique social ethics and glorious advances in science and engineering fields. Under the environment of high social development in this period, the British Empire took advantage of this heyday and established many authoritative institutions. Later in 1830, Charles Babbage insisted that poor organization of the scientific institutions would form backwardness of British science, calling for reform of the Royal Society.[1] As one of the responses, Albertopolis became the centre of reformed scientific and artistic institutions with Prince Albert's fund in Kensington. This area was also prepared for the Great Exhibition in 1851; later, it became the South Kensington.

Figure 2

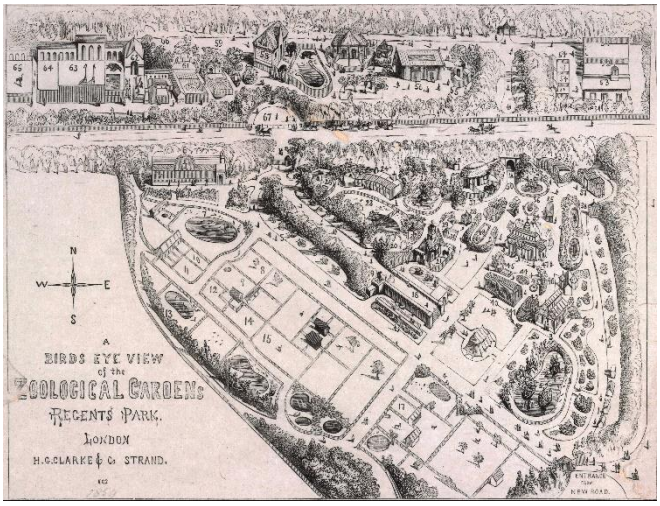

Figure 3

With the popularization of scientific research, professional research on animals was quietly rising. The worlds' first zoological garden was founded in 1826 by Sir Stamford Raffles (Figure 1), after his duty on conquest and administration at East India Company in Asia[2]. London's Zoological society was not in Albertopolis as it was set in the northern end of Regent's Park before the construction of Albertopolis (Figure 2). Still, the society survived the

[1] Ito, Takashi. *London Zoo and the Victorians, 1828-1859* (Royal Historical Society Studies in History New Series Book 1987), p. 64

[2] Sylph, Ann, 'Remembering Sir Stamford Raffles, founder and first President of ZSL.' *ZSL: Blogs,* (2018/07/01) https://www.zsl.org/blogs/artefact-of-the-month/remembering-sir-stamford-raffles-founder-and-first-president-of-zsl

reorganization of institutions and societies by proving its worth; this is partly because the zoological garden was a popular site; it could say the zoological garden was born out of people's curiosity for new things, not only scientists but the whole civilization.

Animal Collection and Empire Dreams

Figure 4

The zoological society's approach is collecting and researching animals, and the zoological garden was used to present the collections, in other words, display animals as entertainment. However, during the Victorian Era, the treatments and custodies for animals were harsh, even brutal (Figure 3). This was related to the weak concept of animal protection at that time.

Most scientists and institutions used the name of 'Empire's progression' as the cover for plunder; "In one study of Joseph Banks's plant collectors, which defines them as 'agents of empire', who 'helped to incorporate new lands and colonies into a British scientific and industrial hegemony'."[3] Imperial scientists carried the dreams of building up 'Kingdoms' in multiple types of research fields to spread the British Empire's hegemony as propaganda across the world.

Exotic animals were counted into the Empire's collections with the setup of the imperial trading network between other countries. As listed in the book 'The Zoological Society of London 1826-1976 and beyond', "Trading companies and friendly rulers still present animals to Her Majesty, which by her grace often fund their way to the society's gardens."[4] Animal

[3] D. Mackay, 'Agents of empire: the Banksian collectors and evaluation of new land', in *Visions of empire: voyages, botany and representations of nature,* (Cambridge: 1996), pp.54

[4] Zuckerman, Solly, 'THE BRITISH OVERSEAS', in *The Zoological Society of London 1826-1976 and beyond,* ed. By Zoological Society of London, Publications Department (London: Published for the Zoological Society of London by Academic Press, 1976.), pp. 18

diplomacy was one of the primary sources for the zoological garden in London, which British's first giraffe arrived on the ship Penelope in 1827 as a gift to King George IV from the Viceroy of Egypt named Mohammed Ali (This Giraffe didn't have the chance to be presented in London Zoo).[5] The 2nd was given to France. The two giraffes influenced the worship of giraffe in Europe and aroused London's Zoological Society to purchase more giraffes for their garden. Shipping was the only method for foreign animals to visit the land. Still, with the lack of experience and knowledge, more giraffes purchased by the society died again and again during the transportation. There was a race between the society and Edward Cross, proprietor of the Surrey Zoo, during the purchase. The race was to forestall the others to present the first giraffe in England Zoo. To assure the transport in speed and safety, the society booked an English steamer for £2000, fitted out for carrying the giraffes.[6] At last, the giraffes arrived a month early, succeeding against Edward. The four giraffes (figure 4) in London Zoo became a blast as the first exhibited giraffes in the Empire, but who won't care how many giraffes failed to land on England? Nobody.

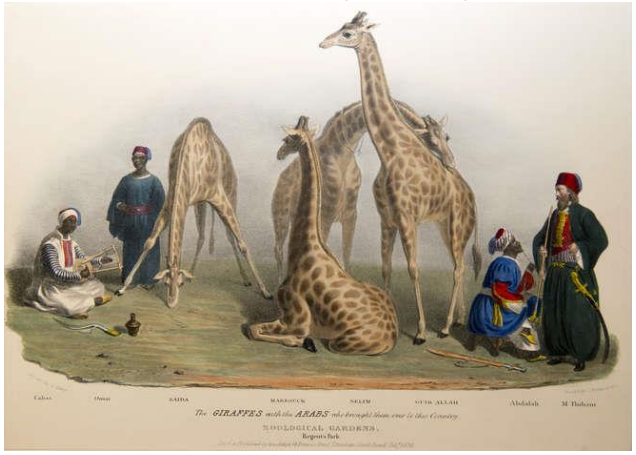

Figure 5

Animal Ownership and Display in the Zoological Garden.

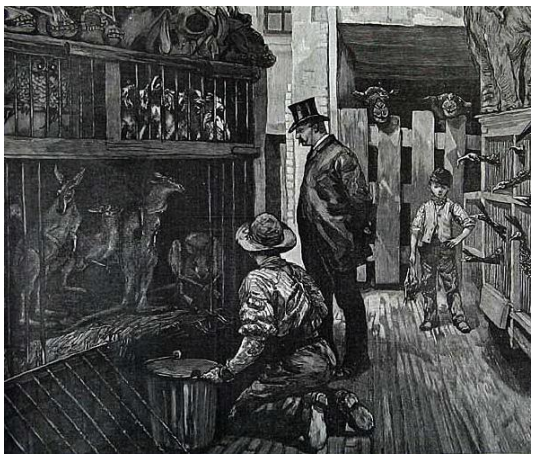

Figure 6

With the story mentioned, it is clear that even if the purchaser was not from an 'official' proved institution or society, wealth determined the ownership for imported animals. Many people in the Victorian Era had their own 'pets' outside of the London Zoo; Charles Jamrach (Figure 5) was the most famous menageries, dealer and collector of exotic animals back then. Charles was with a view in upper-class symbols (owning things); he played a role as a dealer in upper-class animal trading, benefitting from selling his collections of exotic animals.[7]

[5] Loske, Alexandra, 'Giraffemania! The live diplomatic gift that started a Georgian craze', *The Guardian – Science* (2015/11/03), https://www.theguardian.com/science/animal-magic/2015/nov/03/gift-diplomacy-king-george-giraffe-britain-brighton-exhbition

[6] Ito, Takashi. *London Zoo and the Victorians, 1828-1859*, (Royal Historical Society Studies in History New Series Book 1987) pp. 64-67

[7] Reynolds, Laura, 'When London Was At the Centre of The Exotic Animal Trade', *LONDONIST,* (2016/04/05), https://londonist.com/2016/04/when-london-was-at-the-centre-of-the-exotic-animal-trade

Figure 7

Figure 8

Compared to circuses and menageries, the zoological garden was slightly milder. Caging animals in enclosure space and displacing them to tourists seemed harmless for animals. Most animals lived in indoor spaces; people believed the exotic animals would not survive through the cold during winter. The old Elephant and Rhinoceros houses were typical examples (Figure 6). It is very odd for animals to live in human-kind houses, and obviously, indoor lives are not suitable for elephants. The monkeys in the London Zoo were very representative of the cruel treatment. As you can see in Figure 7, the monkey cage was fully exposed to outdoor environments. Unlike the giraffes, monkeys have cheap lives that can be replaced easily, all monkeys die during the winter, and new monkeys will fill up the cage each year.[8] Looking back to today, how frightful it is for Victorian Era's people to realise this maniac. As Ito described in his book, "enthusiasm outweighed criticism in the early years of the zoo."[9] People overlooked the zoo's poor treatment of the animals or perhaps chose not to care. The London Zoo of this period magnified the arrogance and disregard for animal life.

[8] Ito, Takashi. 'Introduction: The Zoo in History' in *London Zoo and the Victorians, 1828-1859*, (Royal Historical Society Studies in History New Series Book 1987) pp. 2

[9] Ito, Takashi. 'The Site of Animal Spectacle' in *London Zoo and the Victorians, 1828-1859*, (Royal Historical Society Studies in History New Series Book 1987) pp. 37

Chapter 2: 1902 – 1992, First Attempt of Animal Habitation Design, Modernism Architecture in London Zoo

This chapter will lead the timeline into the 20th century, where the London Zoo faces its first re-organization. It's a vital time to the Zoo as there were several famous architectures created on-site, the ideas on building and displaying have changed dramatically through this time. This chapter will introduce the most prominent building as the pioneers of animal habitat design; analysis will be made through its concept, animals' responses and finales.

In 1902, the ZSL held a re-organization for the London Zoo; Sir Peter Chalmers Mitchell became the secretary of this grand plan. His idea on display was advancing; he encouraged innovative thinking on animal display designs and abolished the old Victorian aged animal caging displays[10]. It's believed that he is the person who led modernism into the London Zoo and who set up the idea of open-air animal habitat. Tecton was one of the architecture design groups involved in the redevelopment. The join of modern architects brought architectural aesthetics to a new level; this marked the first attempt for these architects to design for animals.

Berthold Lubetkin's Penguin Pool, A building that succeeds and fails at the same time

Berthold Lubetkin, a representative architect in the modernism movement in the century. As he led the architecture group Tecton, Penguin Pool was his design in the London Zoo. As a result, the pool was highly regarded in the architectural field as it became a Grade- I listed building. Still, it's also the most representative building that marks the failure of animal habitat design in the London Zoo.

The design follows the principle "Behaviourism", a popular philosophy of psychology in the 1930s that claimed that all animal behaviours resulted from the external environment[11]. The concept was to build an open stage that matches displacement and the penguin's habitat. All the ideas and studies sound convincing. However, architects and engineers were too obsessed with the building itself that Ignoring the penguins' experience. The modern concrete has caused penguins to have foot diseases (Figure 9); hence by looking at Figure 10, you can see the back of the image, the penguins are standing in the water, meaning the pool wasn't even made into the correct depth for the penguins to dive and fly, this property is more obvious in Figure 11 and 12.

The penguins were moved in 2004 due to the disease and leaving the pool empty for 15

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[10] Guillery, Peter. 'Historical Development' in *The Buildings of the London Zoo* (London: Historic England, 1993) pp. 12

[11] United Kingdom Architecture News, 'Berthold Lubetkin's Poetic Penguin Pool May Be Demolished At London Zoo', *World Architecture,* (2019/01/10), https://worldarchitecture.org/architecture-news/epvhc/berthold-lubetkins-poetic-penguin-pool-may-be-demolished-at-london-zoo.html

years; barely anyone discussed the design's impact on the penguins, the achievement succeeded in the architecture field was cherished most of the time. This failure has invoked the zoo to have a complete study of penguins' habitat in the future, and has given up the idea of involving modern architecture designs which suits the humans' tastes on animal habitat designs.

From the man-based principle and concepts to all the studies for architectural structures, less communication and experiment were made with the animals, thus marking the failure of the listed buildings in the London Zoo. The symbiotic relationship doesn't exist through this time, as during this first attempt, designers know too little about their clients. In the end, architecture design may be only suitable for human clients.

Figure 9

Figure 10

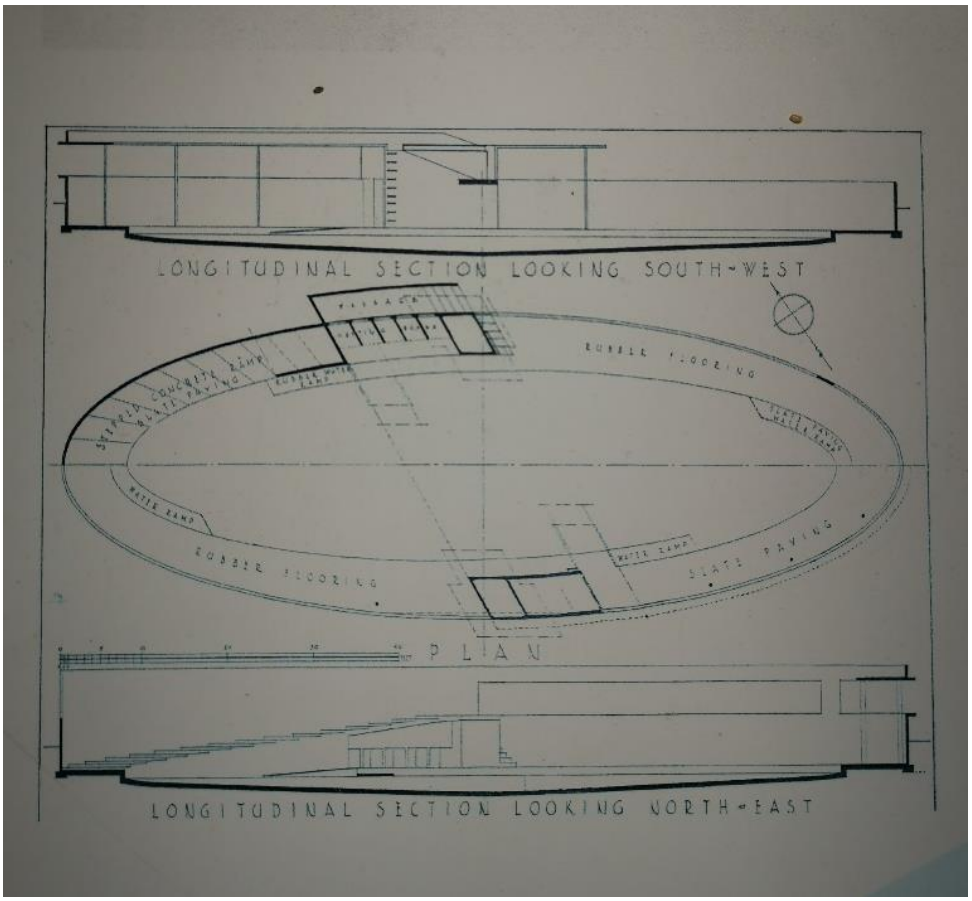

Figure 11

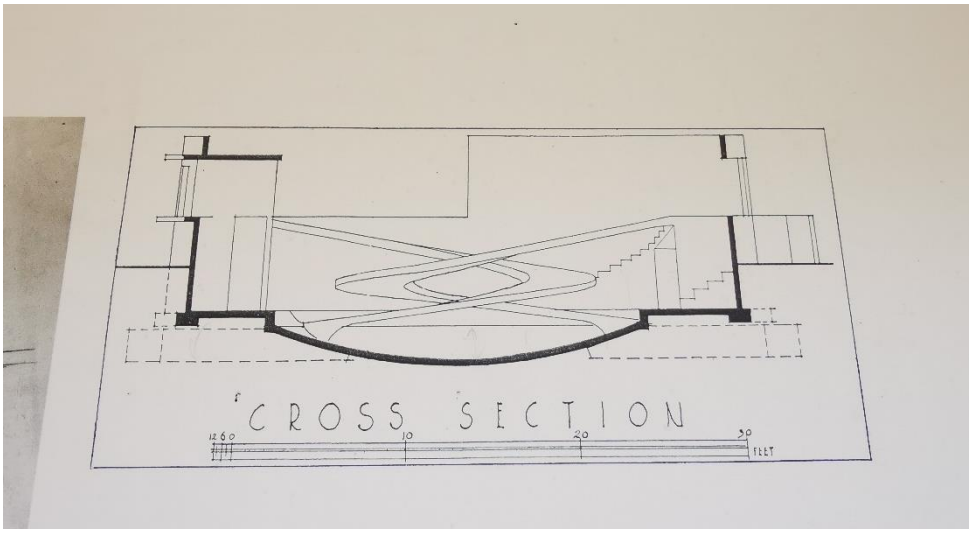

Figure 12

Chapter 3: After 2000, Destination of Display, An uncertain Future of Symbiotic Relationship between Human and Animals

This chapter will start with the changes in London Zoo's existing animals' habitat designs when coming into the 21st century, discussing the future of the symbiotic relationship between humans and animals through London Zoo itself and comparing it to two other types of zoological facilities.

Hence from the previous Chapter. After the functional failure of the modernism Architectures. London Zoo faced the biggest challenge in its history; In 1991, London Zoo announced that its financial position at poor, which will have to be closed permanently in next year's September. The problem it faced was hugely affected by societies' aspects of animal treatments and habitats, especially on displaying and caging. Such calls have been attributed to the rise and popularization of animal protection groups such as WWF and WAP. Along with the pressure of public opinions and the increasingly strong concept of animal protection. London Zoo had to undergo a transformational revolution, redeveloping it into a more animal saving approach. It became the last resort for the continuing operation of the London Zoo. In October 1992, the future fate for London Zoo was written to become a facility focusing on breeding and conservation of endangered species. And at the same time, projects on improving the zoo's animals' habitat were drafted—for example, the penguins.

Today, I witness the new approach and mindset of the zoo by visiting the site; most of the designs have followed its new principle, 'conservation and existing animal habitat improvement'. This realm reborn in the zoo has been approved to be successful and widespread through the last two decades. The new approach and habitat for the animals in the London Zoo will be analysed through the architectural design and area functionality. The possibilities of the symbiotic relationship will also be examined.

To give the rights, choice and control in 'Rainforest Life'

"Rainforest Life" is an interior space that simulates a rainforest's climate, representing an ecological environment in the north section of the London Zoo. It includes an Atrium with nine different species and a 'nightlife area' where presents nocturnal animals in sealed windows sections.[12] In this area, animals are settled without restriction, with no cages or fences; the only limitation is to be in this Atrium space. Visitors will enter the space through the balcony on the second floor of the atrium to experience a shared space with animals (see figure 13), and of course, people can interact with the animals.

The banyan trees that blend into the interior space allow sloths and monkeys to move around freely. During my visit, there was a sloth sleeping right above the visitors' route (see figure 14). By my observation, these animals are used to living in this space and have no wariness to humans.

According to workers' sayings, the animals in this space were given t*he rights and choices to be where they want to be*, and the ability of control held by workers and animals themselves, as they were trained to live in this building and with humans. The fun fact is that they did feel bored during the COVID-19 pandemic, which they got less interaction with visitors. (See Figure 15)

Figure 13

[12] ZSL London Zoo, "Rainforest Life", *ZSL London Zoo,* https://www.zsl.org/zsl-london-zoo/exhibits/rainforest-life

This space is an essential sample of **‘when animals compliance man-ruled environment’**; it shows one of the possibilities of symbiotic relationship. They naturally acknowledged the dominance of humans because they were born in the zoo. “Rainforest Life” is a gentle, but mandatory symbiotic relationship biased to humans.

Figure 14

Figure 15

Atonement and improvement, The Penguin Beach

Figure 16

Based on the failure in Penguin Pool, new habit design for penguins has turned in a different direction. A recreation of cobblestone beach in West Africa became London Zoo penguins' new habitat in 2011. It locates at the centre of the London Zoo, stepped seats were set around the beach for visitors, and there are recessed spaces that provide several underwater views through glasses to look at penguins' flying in the water.

The beach was formed by a cobblestone beach and two connected lakes for penguins to swim and dive (see Figure 17). A set of installations was set to these penguins based on a completed study; Fans were placed around the outer edge of the beach to simulate sea wind as part of the ecology recreation (see Figure 18). Additionally, penguin burrows were given by the breeders as part of their natural architecture (see Figure 19); a fun fact, as a reflection of their Innate instinct, some of the penguins do pick up branches on the beach to create their own designed borrows.

Compared to the penguin pool, it was evident that the zoo had improved research studies for the penguins, no more harmful concrete, no more fully exposed spaces, and no longer having a shallow pool to dive and get hit. From the penguins' aspect, this ecology and climate of cobblestone beach is the original living factor.

However, in a bigger perspective, zoo penguins still live in enclosed spaces. Compared to

the ‘Rainforest Life’, they can barely interact with humans, and they have only the beach to explore; the beach is still minimal. This reveals that the symbol of illiberality is a forever concern for zoological facilities in cities. Penguin Beach may be a better environment for penguins, but after all, this area is still an entertainment section for visitors; except the beach area, the rest was Amphi-stair seats for visitors to gaze into the complete picture of this attraction.

The new Penguin Beach represents a direct animal habitat design; however, it is missing the core of animals’ connections to visitors in the zoo and our world. It is a neutral example that isolates the penguins’ beach from our lands. The symbiotic relationship is only an appearance on the surface in this area.

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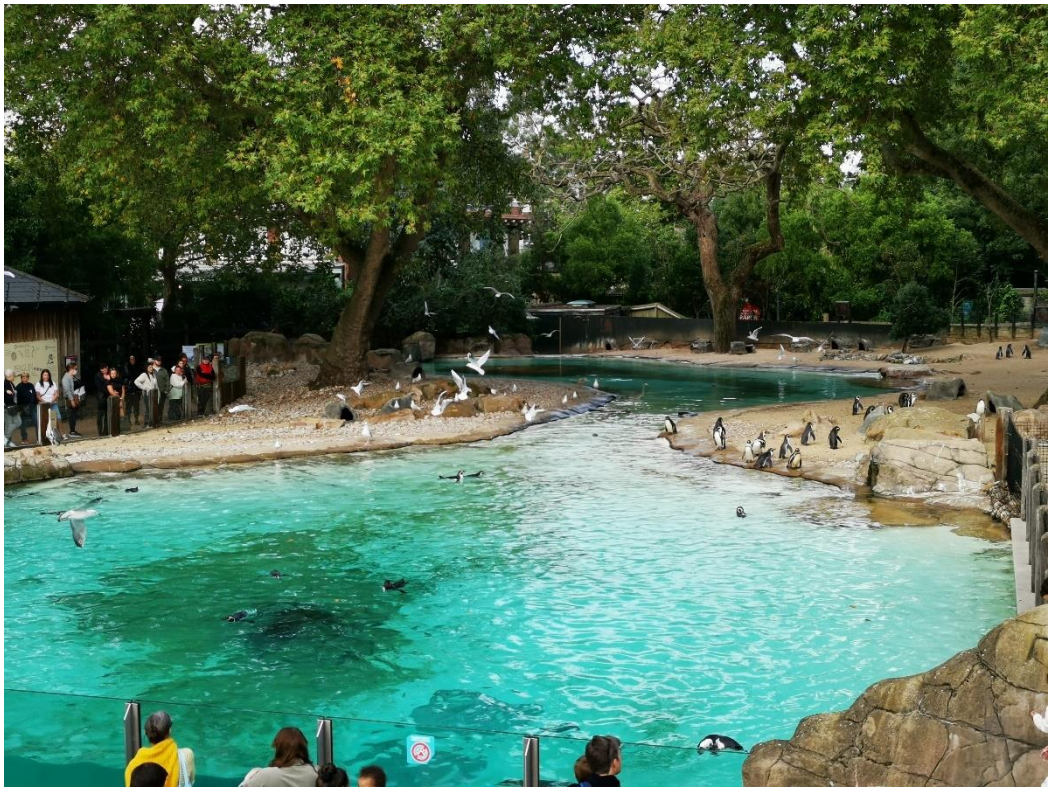

Figure 17

Figure 18

Figure 19

Recall to Victorians, arrogance or mercy? Lands of Lions

Land of The Lions is one of the latest sections opened in the London Zoo (2016), advertised as an “immersive Indian-themed area”. The three lions living in this area were rescued from the Gir National Park in West India.

However, strangely, it is designed in an approach for tourists’ experience rather than the comfort to the lions; in other words, it is the most misleading section for the visitors in the London Zoo. Without much exaggeration, this space can bring the visitors into another world in the worst way through its layout; Exotic decoration and spatial design are bewildering. Deserted Indian markets, residential interiors, and even a hair salon were inserted (see Figure 20 - 23). Overdecorated architecture language has changed the Lands of LIONS into a peculiar and inharmonious circus; such human elements should not appear in a zoo.

Figure 20

Figure 21

Figure 22

Figure 23

Hence from the architectural analysis, let’s talk about lions themselves. Cut to the chase, the lions in the London Zoo are no longer lions; they are more like pet cats that lost their wild nature in human captivity. From the perspective of Lion’s habit, most lions will need to spend time in a group organization (technically called “pride”) and play their characters in them. Males (technically called “coalitions”) are the protectors of pride. Thus, it is their instinct to hone their teeth and claws for fights and hunt, to *survive* in the wildland. On the other hand, female lions are the core of pride; as the pillars of this matriarchal society, they carry the

responsibilities of *breeding* offspring and hunting for food[13]. *Survive* and *breed*, either of these two critical elements for lions exist in this London Zoo. It was evident by looking at the number of Lions and their environment. And what few people know is the lions were having difficulty in breeding when the Lands of the Lion was initially opened; Up to 70% of the newborn lions were dying, as the group of lions rescued for research have 'extremely high degree of genetic similarity'[14]. The breeding project only improved after a new male lion, 'Bhanu' arrived.

In fact, during my visit to the section, only one male lion was revealed to visitors (4 total, other 3 are females). The number of lions available was a disappointment, but the only male lion was sleeping in the dark corner along the visitors' route behind glasses (see Figure 24), very difficult for the visitors to spot and take photos of it. Although it is very reasonable, lions usually sleep up to 20 hours a day because they hunt during nighttime.[15] But in a zoo, lions will not have their targets. The only reason for them sleeping during the day now is boring, to be precise, the emptiness with the loss of wildlife.

Figure 24

[13] ERIN BIBA, "*In real life, Simba's mum would be running the pride",* National Geographic, (2019/07/13) https://www.nationalgeographic.co.uk/animals201907real-life-simbas-mum-would-be-running-pride

[14] Fernandez, C and Keogh.G, *"London Zoo lion family is so inbred that two out three cubs are dying: Pride are all descended from small group of 'founders' that shared the same grandparents",* Daily Mail, (2017/12/27), https://www.dailymail.co.uk/news/article-5216207/London-Zoo-lions-inbred-two-three-cubs-dying.html

[15] Animalia, *"Asian Lion"* , ANIMALIA, *https://animalia.bio/asian-lion#description,*

Isn’t this artificial realm familiar? This situation was almost like the Victorian animal treatment hundreds of years ago; Locking up lions in enclosures with the beautiful excuse of conservation saving, ripping off the fame of the lions and using it for entertainment publicity. Sloths and monkeys have their interspersed branches to swing, and penguins have their burrows and beach pool to dive. But what about lions? Lions have nothing but space for sleeping and laying down, sometimes with food and playable balls served in front of them. Stripped of the instinct to survive in the jungle, their meaning was replaced by being playthings for tourists and breeding machines to perpetuate their species. Such an unequal relationship could hardly be symbiotic; it is more like recalling the worst conquering relationship. This unspoken fact and man’s arrogance, hidden in most zoos’ lions and tigers’ territories, has been exposed in this “Lands of The Lions” through its ridiculous arrangements.

So as one of the eldest zoos, does this mean the presentation of this Lion habitat reflects all of the zoological facilities in the world? The answer is No; in fact, we can all see the London Zoo’s effort on improving animal habitats through the centuries. Nowadays, zoos are learning from some advancing and specialized zoological facilities. In the next part, I will present two precedents on different approaches to the London Zoo.

Figure 25

Case Study: Givskud Zoo, the 'Zootopia'

Givskud Zoo, a safari zoo from Denmark, is a prominent precedent. It is the opposite case to most entertainment zoos. The zoo was initially known as 'Løveparke' (The Lion Park) when lions were the only animals living in the zoo.[16] Inspired by the publishing of Knuthenbory Safari Park, the 'Løveparke' reopened in the same year as a safari zoo. Choosing the word 'zoo' marks the park to become a zoological education purpose-based facility, conservation of endangered species was essential.

In this zoo, different animals live in a vast field together with no fence or barriers (see Figure 26) (65 hectares is currently in use for the zoo and safari section)[17]. The lions were separated into another area as they could hugely affect zoology in the zoo. In this case, the architectural design of animal habitat does not exist; The habitat provided for the animals is the land itself, only with some recreation of suitable environment like the penguin beach mentioned above. The role between visitors and animals have been exchanged in Givskud Zoo; animals are no longer trapped in mans' architecture, but humans will need to lock themselves in their cars and buses to interfere with animals' lands for sightseeing.

Figure 26

[16] Givskud Zoo, 'The history of GIVSKUD ZOO', *Givskud Zoo: The Company,* https://www.givskudzoo.dk/en/the-company/ (accessed 2021/11/17)
[17] Givskud Zoo, 'Fakta om Givskud Zoo', https://www.givskudzoo.dk/en/the-company/objectives/ (accessed 2021/11/17)

And with this potential, in 2014, Bjarke Ingels Group revealed a future design for this safari park, named “Zootopia”. The idea is to “create the best possible and freest possible environment for animals.” [18] As they proposed, the future strategy will optimize the experience of the safari zoo. And most importantly, the areas designed for animals will be integrated and hidden in the landscapes. It was created closer to animals’ original habitats[19], giving them the space to hide from humans. This shows how zoos can use artificial structures differently from the past, an original habitat for animals only, unlike most zoos’ exposed “stages” for visitors. The only area in the project designed for humans is the entrance area (see Figure 27) a giant square representing the crossroad of the safari adventure. And the people will immerse into animals’ territories in different transportations through different portals; bicycles, boats, flying cable cars…Transportations replaced the cage for the animals and turned it to humans’ use.

Figure 27

The concept behind this project shares the same echo to the symbiotic relationship I look for; Humans, as the rulers of the planet, have been remarkably resilient to the environment; thus, the creation of architecture ecosystems reflects the changes people make to adapt the environment. The Givskud Zoo brought up a challenge to combine the zoo's multi-animals and humans through architectural design, a symbiotic ecosystem.

Figure 28

[18] Quintal, Becky, ‘BIG Unveils Design For “Zootopia” In Denmark’, *ArchDaily: Architecture News* (2014), https://www.archdaily.com/532248/big-unveils-design-for-zootopia-in-denmark (accessed 2021/11/17)

[19] Quintal, Becky, ‘BIG Unveils Design For “Zootopia” In Denmark, Figure 10’, *ArchDaily: Architecture News* (2014), https://www.archdaily.com/532248/big-unveils-design-for-zootopia-in-denmark (accessed 2021/11/17)

Givskud Zoo's Zootopia project offers a glimmer of the possibility of the concept, but at the moment, the project is not yet built, and talks of ideals may be a bit of a bluff. Therefore, another precedent will be a practical and lasting one, a Research and breeding focused facility in Chengdu, China.

Case Study: Research Base of Giant Panda Breeding, the 'Regeneration of Pandas'

Chengdu Research Base of Giant Panda Breeding, aka CPB, was initially an organisation in the Chengdu Zoo. In the 1980s, huge amounts of bamboo in the Qionglai mountains flowered and withered, depriving the pandas of their primary food source and causing many deaths. The organization rescued six pandas in the wild at the time, but the pandas were not put on display in the Chengdu zoo after they recovered. The organization was separated from the Chengdu Zoo to set up giant pandas' treatment and breeding base.

The facility is located 10km away from the city, built near giant pandas' original habitat. All the research and conservation started with the six pandas saved from the wild mentioned above. Unlike the breeding projects in the London Zoo, CPB has professional, abundant laboratories and scientists carrying various missions on giant pandas. And without capturing more pandas from wildlife, the facility successfully reached a population of 215 at the end of 2020.[20] The enclosures in the facility were designed similar to giant pandas' wild habitat. It may look like a caging thing, but considering the panda's habitat, it is not as unreasonable as displaying lions in a pile of empty Indian houses. Not to say the primary approach was different, there was no specific purpose of display in this base, the routes for visitors are crossing through panda's living areas. (See Figure 29)

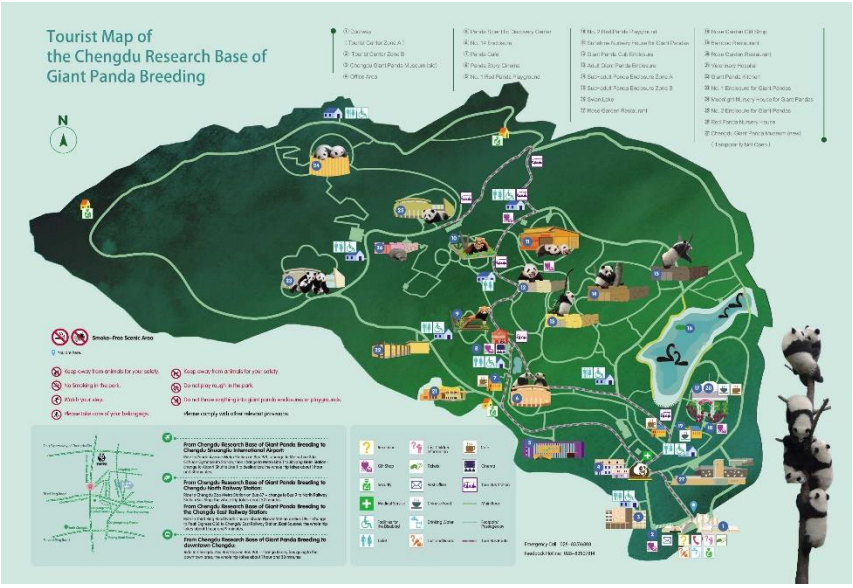

Figure 29

[20] Chengdu Research Base of Giant Panda Breeding, 'Brief Introduction to Chengdu Research Base of Giant Panda Breeding', *PANDA.org: About Panda Base,* http://www.panda.org.cn/english/about/about/2013-09-11/2416.html (accessed 2021/11/08)

The research purpose of the base is to improve the survival of giant pandas as a great species group, mainly focusing on diseases, gene defects and environmental rehabilitation. Wild pandas saved by foundations or villagers were sent to this base for treatment and rehabilitation. The base will send conservationists and panda veterinarians to scenes in some cases, and when pandas were cured, they got released back to nature.[21] Not a single panda rescued from the wild was kept in the base or other zoological facilities.

With the rise of population in base, wild naturalization project was initiated in 2003[22], building nature reserve for the facility-born pandas to be released into the wild, although facing a lot of problems like lack of abilities on foraging, accidentally killed during conflicts with wild pandas, the naturalization has improved through the years, and this human effort has saved this specie from endangered species list[23].

CPB has proved itself a beneficial zoological facility to animals, which is again very different from others; they delivered the symbiotic idea through actions. Animals from the wild belong to the wild; even those born in the facility shouldn't be caged forever. CPB has given space between humans and animals. This is reflected in how they treat animals in a true sense of conservation.

Figure 30

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Conclusion: Limitation in City Zoos. An uncertain future of Symbiotic Relationship between Human and Animals

In general, it can be said that the prospects of a zoological facility are inextricably linked to its original built purpose. Givskud Zoo was created as an open safari park and is becoming the forerunner of futuristic zoos. It carries the possibility of a symbiotic relationship. CPB was built as a professional facility for Giant Pandas; the results of its researches and the changes in the fate of giant panda spices are unmatched by any other zoological facility. Its existence has shown the animals that humans have the mercy of saving animals as the planet's ruler. However, in contrast, the London Zoo has no match against these two precedents.

From the architecture aspect, some areas in the London Zoo still recall the old aged concept. Hence a remarkable number of unused buildings were still left in the zoo; The Penguin Pool, the Elephant House, The Mappin Terraces and Aquarium, all these relics of modernism animal habitat design, forms a beautiful view in the London Zoo. But none of them works as their original purpose of usage. They were all kept where they are in the name of listed buildings. Personally, to me, the existence of these failures on zoological designs led to a result that most people think, “the architectural value in the London Zoo is more attractive than its animals.” Ironically, the newest “Lands of the Lions” also shares this “reputation”

The roots as an entertainment display garden and its properties as a city attraction have become the limitation for the London Zoo to become a better place

To sum up, **the existence of Zoological Architecture saved many animals from extinction and brought educational aspects. However, most zoos are just the ultimate outcome of human’s curiosity and arrogancy. That which is harmful to the animals they “rescue” from the wild; and the relationship of symbiotics.**

The future to achieve the symbiotic relationship between humans and animals is uncertain, and the goal is remote. It is tough to achieve through designs, as we all understand design is always for the people who need them. Agreements, hence understanding with those “clients” is essential. Perhaps Givskud Zoo “Zootopia” will become a better connection for humans and animals.

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