What does it take to be metaphorically nose to nose with a Sloth Bear? Would this experience bolster fascination or interest in conservation for the visitor? Is this type of experience harmful for the Sloth Bear? Is this setting creating a true image of a Sloth Bear? Does this simply make the Sloth Bear a spectacle? Contemporary zoological parks are still struggling to shed their previous centuries' image of a menagerie, and to affirm their place as leaders in environmental education and conservation.[1] The metamorphosis from entertainment venue to educational facility is marked by design alterations in animal exhibits. Despite their attempted change zoological parks' new exhibit spaces, called habitat immersion or landscape immersion, are rooted in the late nineteenth century.[2] 'Modern zoos see themselves as fulfilling a crucial role in conservation management. As environmental resource and conservation centers, they provide a safe haven for numerous endangered species and inform the public about their predicament.' [3] Zoos have justified their modern existence via education and conservation. 'Contemporary zoos prefer a "naturalistic" environment…a space which has been designed and engineered to look natural within which the animal can be displayed to better advantage as an exhibit….maximizing the condition under which visitors could appreciate the animals which are and must be seen as exhibits.'[4] This paper briefly examines the efficacy of the Smithsonian National Zoological Park's (NZP) *Asia Trails,* a habitat immersion exhibition. *Asia Trails*' success will be factored

[1] For more about the terms: zoological park, zoo, safari park, menagerie please see Eric Baratay and Elizabeth Hardouin-Fugier, *A History of Zoological Gardens in the West.*

[2] The true origins of habitat immersion begin with German animal dealer Carl Hagenbeck was the first to display animals confined within moats rather than behind bars or fences. In the 1890s Hagenbeck began building 'panoramas.' In 1907 he opened a permanent exhibit called Hagenbeck's Tierpark. He wrote, 'I wished to exhibit (the animals) not as captives, codified within narrow spaces, and looked at between bars, but as free to wander from place to place within as large limits as possible, and with no bars to obstruct view and serve as a reminder of the captivity.' For more please see Elizabeth Hanson, *Animal Attractions: Nature on Display*, p140-1.

[3] Natasha Silva, *'Paradise in the Making at Artis Zoo,' Science, Magic, and Religion: The Ritual Process of Museum Magic* (New York: Berghahn Books) 2005, 120.

[4] Keekok Lee, *Zoos: A Philosophical Tour* (New York: Palgrave MacMillan) 2005. 35.

by the exhibition's ability to aid the zoological park's mission of education and conservation. The following is discussed in order to determine *Asia Trails*' success: the materials used to construct habitats and visitor spaces, and the methods of educational programming.

Zoos, or zoological parks, are places where wild animals are kept for exhibition.[5] The display of animals is critical in determining zoological parks classification as a living museum. Living museums (those that contain live collections) are subject to the same cultural branding that non-living collections based entities bear. Museums can be considered 'sacred' places, where one might experience something authentic, truly real.[6] Experience and authenticity are at the core of discussions on zoological parks and habitat immersion. The aforementioned begs the question: can a person experience authenticity in a museum, and how do museums, specifically zoological parks, demonstrate authenticity? Since they simulate the physical world, in nature, zoological parks have a distinctive perspective on authenticity. In her article on the Amsterdam's Artis Zoo, Natasha Silva states, 'there seems to be a strong trend in thinking that "authenticity" lies outside the everyday modern urban life …in…nature.'[7] Might the author be suggesting that zoological parks offer a 'truer' version of authenticity than traditional museums?[8] Regardless, both types of museums (living and non-living collections) fashion an environment that sets the mood for their objects.

Design logic, as applied to picture frames, coordinates with zoological parks attempt to fashion a mood for 'wild' animal habitats. Frames not original to the painting are replicated to fit the work's period. For example, a Stanford White frame on an American Renaissance painting places the object within the correct context. Functionally the frame, as well, makes the painting

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[5] Webster's, *Zoo*, http://www.merriam-webster.com/dictionary/zoo (accessed December 4, 2008).
[6] In his article on anthropology Richard Handler suggests in modern society, the temple of authenticity is the museum. For more see Richard Handler ,'Authenticity,' *Anthropology Today* (1986).
[7] Silva, 'Paradise in the Making at Artis Zoo, 135.
[8] Traditional museums generally re-create their object's context with in-house graphics and literature.

stand out among others, and illuminates what is inside. Because the frame is visually connected to the painting, it has the potential to subconsciously effect the viewer's impression of what is held within. A good frame integrates the painting's design, making visual harmony. A poorly constructed frame, or one that does not fit the painting's period, is simply a distraction.

> 'The most compelling and obvious impact on visitor attitudes toward wildlife is the way that zoo animals are presented. This is why quality of exhibit design is of paramount importance. The validity (authenticity) of the zoo experience hinges on the functional and visual integrity of the zoo exhibits. Zoo-exhibit design must flow from clear and strong philosophies and be based on recognition of the realities and complexities of wild habitats and the extent to which human development and personal fulfillment relies upon the natural world. Unless they are being exposed to extremes of horror or wonder many zoo visitors assess the exhibits and their own relationships to the designed environments only subconsciously. It is for this reason, that attention to detail is essential.'[9]

Here the author suggests two crucial ideas: that authenticity is a good facsimile, and visitor satisfaction/retention motivates attempts at authenticity in zoological parks, before conservation or animal welfare concerns.

Asia Trails has garnered several industry prizes including an AZA Significant Achievement Award for exhibition design.[10] Despite its impressive resume, *Asia Trails* did not originate habitat immersion elements. Woodland Park Zoo's *African Savanna*, constructed by Jones and Jones architectural firm, was the first habitat immersion exhibit in the United States.[11] Jones and Jones speak about their method as follows, '…(the) master plan for reconstruction of

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[9] David Hancock, *A Different Nature: The Paradoxical World of Zoos and Their Uncertain Future* (Berkley: University of California Press) 2001, 145.

[10] *Asia Trails* has additionally won: Washington Building Congress Craftsmanship Award 2007, Honorable Mention in 19th Annual Excellence in Exhibition Competition AAM 2007, Presidential Citation for Sustainable Design by Washington Chapter of the American Institute of Architects 2006. For more information please see Zoolex (A Service of the World Association of Zoos and Aquariums) http://www.zoolex.org/zoolexcgi/view.py?id=961

[11] Rhéaume, Danielle. 'Travel Washington: Woodland Park Zoo: Revolutionizing Conservation,' *Washington Business Magazine* (Nov/Dec 2007) http://www.awb.org/articles/magazine-novdec2007/travel_washington_woodland_park_zoo_revolutionizing_conservation.htm

the zoo in 1976 inaugurated the landscape immersion era in zoological design…(it) proposed the pioneering concepts of bioclimatic zones…(it) created a framework for exhibiting animals in social groupings, and their native landscape habitats.'[12] Jones and Jones instigated the breakdown of traditional methods for viewing animals in zoological parks. With their new design, animals were removed from their concrete prisons, which offered little solace and, or, stimulation for their inhabitants. Jones and Jones underscored that the benefit of these bioclimatic zones was the creation of a new respect (in zoological park visitors) for the dignity and welfare of animals.[13] This benefit is counted among the three major goals for *Asia Trials* that, 'human activity has caused many of these animals to become endangered, but humans are also taking action to help save them from extinction. To that end, *Asia Trail* offers opportunities for visitors to observe animal behaviors, and learn about Zoo/Smithsonian research...'[14]

African Savanna sets the tone for subsequent habitat immersion exhibitions, and several of its features (apart from *Asia Trails*' mission) obviously influenced the *Asia Trails* project. A predominate feature of *African Savanna* is the presence of East African Massai culture by way of an authentic village of: a school, a thatched-roof house, and native cultural interpreters.[15] Similarly, *Asia Trails* is divided into the bioclimatic zones (found in India, Nepal, and China) that successfully integrates their local cultures.

Asia Trails is nestled into the rolling hills of NZP; its meandering path anchored on either end by the spacious habitats of the Sloth Bears and Giant Pandas. Smaller habitats housing more diminutive species are sandwiched in between: the Clouded Leopards, Fishing Cats, Asian

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[12] 'Jones and Jones Woodland Park Zoo Long-range Master plan' http://www.jonesandjones.com/work/pdf/WoodlandParkZoo_LRP.pdf pamphlet (accessed December 11, 2008).
[13] Jones and Jones
[14] Zoolex
[15] Danielle Rhéaume, *Travel Washington*

Small-Clawed Otters, Red Pandas, and a Japanese Giant Salamander.[16] *Asia Trails*, the first of a two part renovation program for NZP, opened in 2006 to the tune of $52.7 million.[17] Despite the uneven terrain *Asia Trails*' habitats are visible from multiple vantage points, and on occasion, in tandem. This is one of many visual links that knit habitats together, which creates the illusion of immersion. Other 'immersion' clues are found within the consistency of *Asia Trails*' structural and material designs. Structurally speaking, *Asia Trails* employs novel 'green' techniques. Through the utilization of 'green' architecture, NZP's mission of education and conservation are conjoined. The desire to use 'green' materials in crafting the visitor and animals spaces, might elicit a feeling connected with conservation efforts of *Asia Trails*' threatened and endangered species. According to *African Savanna* designer John Coe, feeling is a central concept of landscape immersion.[18] NZP's use of 'green' architecture is promoted on their *Asia Trails* website and within the park. Among the 'green' elements included in Asia Trails, the Sloth Bear Holding Facility and the Panda House addition are partially embedded into the earth for cooling; the wooden decking along the trail is tropical hardwood impervious to insects; the rot certified by the Forrest Stewardship Council provides additional natural habitats for local birds and butterflies, and the double pane glass is built for the benefit of local bird populations, reducing the number of bird deaths on the trail.[19]

Asia Trails' logo and signage are exemplars for the secondary materials and color choices employed throughout. The logo's rusty thin lettered font becomes almost camouflaged from a distance. The logo, set upon a latticed background, exposes the trail bamboo and enhances the idea of camouflage/integration. Other materials such as broad looped mesh wire (used in several

[16] The Giant Salamander was euthanized in November of 2008.
[17] Zoolex
[18] Hanson, 160.
[19] Zoolex

habitat enclosures), double paned glass frosted with vegetal patterns (providing privacy for animals), 25,000 native and Asian plants, unprocessed bamboo on railing, pebbled stream paths running from habitats over the visitors walkway, offer a type of access denied by traditional zoological exhibits. *Asia Trails*' totality of design markets a feeling of intimacy among visitors.[20] Asia Trails is segregated from the rest of the zoo through its dense vegetation. The rest of the zoological park is not seen nor heard in and along the trail, transporting the visitor to the Asian subcontinent.

'It has been long recognized, but rarely publicly acknowledged, that most people learn much if not most of what they know outside of the formal educational system.'[21] Today habitat immersion is a means to impress the plight of wildlife on viewers, in the hopes of translating that knowledge into political action, financial support for conservation organizations, or both.[22] *Asia Trails*' interpretative material can be divided into two categories: passive and active. Passive materials are those that do not require the visitor to 'think' about what they are observing, and may not allow them to participate in kinetic experiences. These include: modified telescopes, 'Built to Survive' cut-out replicas of a specific species imbedded with pull tabs describing evolutionary advantages, and 'What in the Wild' metal question mark shaped flip booklets providing nature themed sound-bites. The latter category, 'active', probes visitors' knowledge of specific species, problems surrounding conservation, and challenges personal understandings of animal and human relationships. 'Active' materials dot the trail in the form of 'You're the Scientist' stations, where visitors physically 'discuss' animal behavior from a menu of answers revolving around hand turned tubes. Most of the 'active' materials are located within the Sloth Bear and Giant Panda habitats outdoor 'Conservation Stations'. A layout which may reflect the

[20] Zoolex
[21] John H. Falk, 'Museums as Institutions for Personal Learning,' *Daedalus*, Vol 128, No. 3, 259.
[22] Hanson, 161.

notion that'…we (as zoo goers) are impressed by size…the larger the animal, the longer the viewing time,' henceforth making an educational opportunity more likely.[23]

'Conservation Stations' are subdivided into museum style galleries of oversized ethnographic pictures, display cases, and flat-screen TV monitors. The following is a discussion of the Sloth Bear 'Conservation Station.' A sampling of the elements are replicated (with different content) in the Giant Panda 'Conservation Station.' The Sloth Bear habitat boasts a 'Curiosity Station' and 'Decision Station,' devices which import a significant aspect of *Asia Trail*'s success, context. Karen Furnweger of the Shedd Aquarium explains this developing trend,

> 'as zoos…immerse guests in ever-more-accurate ecosystem exhibits—mixed species, native plantings, naturalistic topography—another species is showing up: Homo sapiens. To instruct a large urban audience that people are a part of nature, not apart from it, exhibit developers are integrating the story of local cultures that live in or near the habitat portrayed and depend on the health of that ecosystem for their livelihoods.'[24]

This context broadens habitat immersion, and authenticates the visitors' experience. Context is confirmed through the artifacts, both first person via individual narratives and secondary via objects. Museum professionals often consider an exhibition successful if the visitor is able to connect with an object and retain information after the visit. *Asia Trails*' educational materials and design foster this type of connection and mental retention.

Two types of artifacts are housed within the 'Conservation Station' galleries, those related to the Sloth Bear, and those connected to the indigenous populations that share the animals' habitats in India and Nepal.[25] Information/artifacts related to the Sloth Bear (and Giant Pandas) are located in cases called 'Tools of the Trade" that displays devices the NZP and other

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[23] Croke, The Modern Ark, 97.
[24] Karen Furnweger, The Exhibit Triangle: Animals, Habitats, and People, AZA Communiqué pg. 19, www.aza.org/publications2003/03/march2003exhibitiontriangle.pdf (accessed December 7, 2008).
[25]Sloth Bears (Melursus ursinus), Zooger, Septermber-October 2006. http://nationalzoo.si.edu/Publications/ZooGoer/2006/5/sloth_bears.cfm (accessed December 8, 2008).

scientists use in species conservation efforts. Housing these scientific tools inside museum display cases helps to transform them into artifacts. Identifying something as an artifact carries with it added cultural weight that possibly allows the visitor to pay more attention to its message and 'objectness.' Rudimentary scales and radio collars are not treated in a manner akin to old school natural history collections, but are prominently and clearly displayed (for both children and adults) with short didactic-type labels. Through display, worn tools provide the chance for visitors to make a subconscious connection with the gravity of conservation efforts.

A large flat screen TV monitor, several computer touch screens (placed for easy access to both children and adults), and an oversize tactile topographical map surround the museum display cases. All are set within/on a structurally stable 'make-shift' shack with corrugated tin-type roof and rusted walls, which attempts to physically remove the visitor from their present first-world environment. Wrapped around the space are enlarged ethnographic and NZP staff photos accompanied by 'hand written' narratives signed by their authors. It is here, that indigenous populations are associated with each animal. Questions naturally arise such as how do these people survive, what are methods for best practice to preserve their cultural identity and sustain wildlife in the areas, and why should we (as members of first world societies) care? Within these walls, the human factor plays out, contributing another visceral connection to habitat immersion.[26] Zoos are still seen as entertainment venue. The incorporation of museum style artifacts can pull zoological parks back from this orbit, grounding them instead in science and education.

[26] NZP's *Amazonia* has 'Keeper's Notes' posted in erasable marker on the exterior of different habitats. These notes are often worn off or smudged, and do not provide a dynamic interpretative experience. Additionally NZP places information pertaining to indigenous populations' lively hoods, making their plight available to the public.

The last and most innovative method for furthering the habitat immersion experience is controversial. A number of national and international zoos have installed webcams to monitor animals. The NZP's webcams are exceptional, streaming live 24 hours a day. NZP offers webcams for five out the seven *Asia Trails*' animals. Webcams could be considered part of the habitat immersion experience because they allow for a further breakdown of the boundary between visitors and animals. Through the live feeds NZP visitors step into the role of animal behaviorist.[27] How is this different from watching the Discovery Channel or National Geographic?[28] The NZP's cameras are not prerecorded. Although in a media once removed from first-hand experience, the webcam can have a somewhat visceral connection by evoking our voyeuristic curiosity. Most habitats have fixed cameras that produce color images, while others contain cameras controlled by animal behavior volunteers who continuously track animal movements. Despite their positive aspect of broadening NZP's internet connected audience base, there are draw backs. Although inside the habitat, the camera cannot and does not put the animal in a complete context. Visitors see a small portion of the habitat, mostly preselected by the NZP staff. The visitor cannot actively engage in the 'choice' making, and thus ownership, from a live visit. The visitor, like an animal is placed within the proverbal fishbowl, denied the sounds, smells, and feel of an animal encounter. Several of the webcam images are pixilated and, or, black and white. In this case, habitat immersion fails. The black and white images parallel surveillance videos, and transport the animal back into a caged environment.[29]

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[27] Info on articles with webcams and giant panda info At the Fujifilm Giant Panda Research Center visitors are allowed to watch an NZP animal behavior volunteer monitor the three Giant Pandas.

[28] It is easily argued that animals shown on the National Geographic and Discovery Channels are more authentic than zoo animals. Most zoo animals are no longer wild or have never been wild. Zoo animals may not elicit the same natural behaviors as their cousins in the wild.

[29] Webcam only show a select number of animals. This portion represents the totality of the zoo and limits the scope of prospective visitors.

In summation *Asia Trails* is congruent with NZP's mission of, 'demonstrating leadership in animal care, science, education, and sustainability (conservation)…'[30] One year after its opening *Asia Trails* was surveyed by the Smithsonian Office of Policy and Analysis. The survey entitled 'A Study of Visitors to *Asia Trails* Smithsonian National Zoological Park,' measured how visitors felt about and learned from the exhibition.

> *Asia Trail* met visitors' expectations for gaining information or knowledge…The fact that *Asia Trail* met this expectation is particularly notable given visitors' high levels of education and awareness of wildlife conservation. The Zoo was very successful in providing an environment that connected visitors in all categories with nature...a high percentage of exiting visitors recognized that the habitats for the *Asia Trail* animals were exceptional, in many cases exceeding expectations…seventy-six percent of exiting visitors thought that human enterprise threatens at-risk wildlife…. seven in ten respondents (68%) rated the exhibition's learning opportunities as *excellent* or *superior*[31]

Asia Trails meets the mission criterion of conservation (sustainability) successfully by the use of 'green' construction methods and materials and the incorporation of the research of NZP scientists working with animals and species within the exhibition. *Asia Trails* additionally proves its worth as learning tool. It meets the criterion of education through the incorporation of hands on multimedia interpretative opportunities such as the 'Curiosity Station,' 'Decision Station,' 'Where in the Wild,' and 'You're the Scientist.' Furthermore, NZP's habitat immersion exhibitions provide context for the animals in relation to their own habitats, demonstrating how these animals are affected by indigenous communities, and vice versa. As an aside, *Asia Trails* can teach traditional museum about how to successfully work together to create an exhibition. Contemporary museums are slowly transitioning departments and filling new positions that requiring individuals to be more knowledgeable in a variety of fields. The incorporation of cross

[30] 'About Us,' *Smithsonian National Zoological Park*, http://nationalzoo.si.edu/AboutUs/Mission/ (accessed December 8, 2008).
[31] Please reference the survey for a detailed account of its methodology and types of audiences interviewed.

communication with staff throughout the zoological park through design, message, object, and educational components flawlessly intertwine to create a complete experience for the visitor.

Despite its benefits, habitat immersion exhibitions are still simulations. There is no substitute for nature, 'few if any wild animals…would choose to live in full view of human beings, yet in a zoo they must.'[32] Habitat immersion exhibitions raise challenging ethical and moral questions not addressed in this paper. The dissolution of a prison-like lifestyle is a driving factor to habitat immersions, but do their intended messages ring clear if the bars are just reconstituted? Animals in habitat immersion exhibitions, although continually stimulated by trained zoologists and biologist, keepers, do not experience the same freedoms as in the wild. The term 'wild animals in captivity is an oxymoron…the terms 'wild' and 'captive/captivity' do not yield conceptual coherence.[33] Most animals in the zoo are not wild. For example, *Asia Trails* Sloth Bears are trained to suck ants out of an artificial ant mount for visitor entertainment, the Clouded Leopards sleep on artificially warmed tree trunks, and the Giant Pandas have indoor cinder dens painted with an Asian themed distant landscape.[34]

> 'If the wild animals, live for themselves, under circumstances of their own choosing in habitats within which they have historically evolved and lived; in zoos, willy-nilly, they have to live for humans, no matter how enlightened the philosophy of zoo management regarding the conditions under which they are exhibited, as exhibited they must be. In other words, they have to live under conditions not of their own choosing but under those designed and chosen for them by their human keeper.' [35]

So what is the visitor truly observing? What messages, if any, are being employed? A danger in habitat immersion is for visitors to completely ignore the facsimile.

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[32] Randy Malamd, *Reading Zoos: Representation of Animals and Captivity* (New York: NYU Press), 1998. 225.
[33] Lee, 25-6
[34] Zoolex
[35] Lee, 35.

It is easily argued that habitat immersion exhibitions remove the diaphanous veil surrounding contemporary zoological parks. As highly fabricated fictional landscapes, habitat immersions do not teach responsibility but instill complacency among visitors. Webcam interaction only aids in this process. Habitat immersions inadvertently send the message, that animals do and will have a place to go, even if their wild habitat no longer exists. What happens when cultural memory of the actuality is gone forever?