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Landscape Immersion Origins and Concepts

Panel Subject

Landscape Immersion Exhibits: How Are They Proving As Educational Settings?

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Introduction

Animal exhibits are the zoo or aquarium's natural voice, the best means available to communicate our message to the public. Delivery of the message of empathy and positive change in public attitudes about wildlife and our place in nature is one of the most important contributions our institutions can make to the local and global conservation movement.

If one of the principal purposes of zoological parks and aquariums is to encourage the public to see and understand animals, then we should present animals in ways which lead to learning. This means not only factual, cognitive learning, but also the more illusive affective learning.

If we are to present an ecological viewpoint, then we would do well to heed the advice of Mary Akeley (1936):

> *"An animal cannot be isolated, even conceptually, from the particular environment to which it has become adopted during eons of geologic time without a serious misunderstanding of its true nature."*

It is this vision of animals and their natural landscapes, inseparable, which has led most directly to the development of a particular type of naturalistic animal display commonly referred to as "landscape immersion" (Jones, et al 1976), "habitat immersion" or simply "immersion exhibit." Since this concept was introduced twenty years ago it has gained rapidly in popularity until today it is represented to a large degree in most submissions to the AZA National Exhibits Award program.

Despite this substantial acceptance by our zoological institutions and the visiting public, education evaluation of the effectiveness of this type of display has lagged. How do we know these exhibits produce better results then more conventional approaches? Measuring attitude change in a highly complex, multidimensional environment is extremely challenging. Finally, after two decades, field evaluations of good immersion exhibits and supporting data from related fields are suggesting that immersion exhibits are educationally effective. It is time for a status report to the zoological industry.

This paper will define the term "landscape immersion," discuss its characteristics, and briefly relate it to the evolution of zoological design. The papers which follow by Dr. Birney and Dr. Ogden will discuss the research, both theoretical and applied, which seeks to evaluate the premises and results of immersion exhibits.

Definitions

1. Landscape. *"An expanse of scenery..."*
2. Habitat. *"...the natural adobe or locality of an animal, plant, etc., the place where a person or thing is ordinarily found."*
3. Immersion. *"The act of immersing or state of being immersed. The state of being engrossed or deeply engaged."* (*Webster's New Universal Unabridged Dictionary* 1979).
4. *"'Landscape Immersion' (Jones et al 1976) is a term coined to describe exhibits in which visitors share the same landscape (but not the same area) with the animals. In other words, instead of standing in a familiar city park (known as a zoological garden) and viewing the zebra in an African setting, both zoo visitor and zebra are in a landscape carefully designed to "feel" like the African Savanna. Barriers separating the people from the animals are invisible and, no matter where the viewer turns, the entire perceptual context appears consistently and specifically African; ...abstractions are minimized, specifics emphasized. The entire setting looks, smells, and feels as if one left the zoo and entered the African savanna."* (Coe 1985 p. 206).

This is what we mean by making the zoo or aquarium experience real. Not all exhibits succeed in all details, nor are all exhibit designers and clients equally invested in this approach. Nevertheless, I suggest the following elements are important to the creation of immersion exhibits.

1. **Landscape Simulation.** The exhibit must simulate the specific or characteristic natural habitat of the animal being displayed. Broad zoo/geographic representations such as "North America" or "Asian" which embrace many dissimilar ecosystems do not meet this criterion. However, somewhat generalized habitat-based presentations such as "rain forest," while pan-tropical, may be considered immersion displays if they meet the other criteria.

   Advances in the relatively new field of zoo horticulture have made the concept of landscape simulation a reality (Coe 1983).

2. **Continuity.** The created landscape appears continuous on both sides of the animal/people barriers such that the visitors feel as though they were visiting in the animal's natural habitat, with all its sights, sounds and smells.

3. **Consistency.** Elements which are inconsistent with the habitat being replicated are absent, hidden or diminished to the extent they do not detract from the experience of the "natural" setting.

4. **Supporting concepts.** While not strictly necessary to create the impression of being immersed in nature, the following concepts are essential to support the conservation agenda toward which the educational focus of the exhibit is directed.

   a. The exhibit represents a *biocentric* or nature-centered perspective rather than a *homocentric* or man-centered point of view.

   b. The animals are displayed respectfully, such that their inherent beauty, dignity and worth are emphasized. Generally this means that the animals are not looked down upon (placed below the viewer), but rather are intentionally placed above the viewer (looked up to). Interpretive graphics and presenters must not trivialize the animals or their behavior.

c. The areas are designed so that the animals appear to dominate the scene. They may have the central location, the higher ground or the more dramatic setting. Viewers do not appear to surround the animal. Cross views (vistas of other viewers seen from across the animal's area) are avoided or minimized.

d. Animals appear to have limitless areas available to them. This is often achieved by "borrowing" appropriate background views from other areas of the park. Since containment barriers are hidden, it is not possible to visually determine limits to the animal's area.

e. The circulation system is intentionally developed such that a given animal area may be seen from several different view points interspersed with views of other interrelated displays. For example, one may see a lion basking on a promontory beyond an open plain occupied with zebra. Later the lion may be seen behind other displays such as giraffe, rhinoceros, etc. Suddenly the viewer would come upon the lion at close hand.

f. Cultural Resonance (Jones 1989): Many exhibits include replications of traditional human settlements which also immerse the visitors. This has been a successful way to integrate visitor service needs such as snack and toilet facilities as well as providing opportunities for multi-cultural education.

A Brief History of Naturalistic Animal Exhibits

While a more thorough presentation of the evolution of zoo design principals can be found elsewhere (Coe 1992), a brief historical summary will help to place the immersion approach in context.

The earliest display of wild animals in a natural park setting is attributed to Chinese Emperor Wen Wang about 1100 BC (Legge 1861). An early vision of the modern immersion exhibit was foreseen in 1801 by the French Count Lacepede when he stated that an ideal zoological park *"... is not an accumulation of buildings or bird cages or cages with bars, but constitutes a true scenery"* (Van Den Bergh 1962).

Carl Hagenbeck and his family are undoubtedly the best known developers of early "naturalistic" animal exhibits. Hagenbeck created the first moated exhibits for large animals at the St. Louis World's Fair in 1904. His work was further developed at his zoo at Stellingen, Hamburg, described in his book *Beasts and Men* (1909).

While the Hagenbecks deserve credit for many innovations including the multi-species panorama and the concept of serial views, they are best known for the use of very large areas of artificial rockwork, developed for them by Urs Eggenschwyler, a Swiss sculpture (L. Hagenbeck 1956).

Hagenbeck's displays are best described as "romantic" and conceptual. Although they lack our present concern for ecological significance, they certainly influenced future immersion exhibits.

The influence of the modernist movement on zoos began in the 1930's and is still important today (Hancocks 1971). Modernism emphasized functionalism and what we now call a "high tech" approach. Nature was abstracted and diminished if represented at all. In successful exhibits of this type, such as the Lester Fisher Great Ape House at Lincoln Park Zoo, the focus was upon facilitating naturalistic animal behavior not naturalistic appearance.

Moated exhibits using large expenses of artificial rockwork in abstraction of geology are characteristic of the modernist period. These represented a very significant advance over the barred cages of earlier times, though they may seem somewhat sterile by today's standards.

The early modernist period also introduced the great free flight aviaries in San Diego, St. Louis and New York which were later converted to walk-through exhibits. These became very popular because, for the first time, people found themselves surrounded by birds, immersed in a landscape teeming with life.

Landscape Immersion in Zoo Exhibits

Educators such as William Carr moved out from museum confines to found "outdoor museums," such as Bear Mountain Trailside Museum on the Hudson River and the Arizona-Sonora Desert Museum in Tucson (Carr 1982). These can truly be said to be immersion displays, for they placed the viewer and the animals in a picturesque pre-existing natural landscape. The Arizona-Sonora Desert Museum, under the leadership of Merv Larson, led the way in creating exciting immersion exhibits within the greater desert landscape in the early 1970's.

The North Carolina Zoological Park also developed expansive immersion exhibits in the mid 1970's, as did the Chicago Zoological Park. Significant contributions were also made by many of the skilled exhibit fabrication firms. However, no one had as yet suggested a specific, descriptive process and theory for the creation of immersion exhibits in urban zoo settings until 1976 when *The Long Range Plan* for Woodland Park Zoological Gardens was published (Jones et al 1976). The concepts developed in this plan directly or indirectly influenced the construction of immersion exhibits throughout the nation.

Exhibit design and fabrication specialists, both in private practice and on zoo staffs, continued to evolve and diversify immersion concepts. Yet most of these practitioners may remain unaware of the behavioral bases underpinning the immersion approach.

Human Behavior and Exhibit Design

The understanding and manipulation of normal human behavior is (consciously or unconsciously) fundamental to the design of immersion exhibits. While this subject is explored in greater depth elsewhere (Coe 1985), I believe the following basic assumptions are important to understanding the theory behind the exhibit approach.

1. Getting and Holding the Viewers' Attention. People tend to note that which appears as a possible threat. For example a lion or bear may appear more dangerous if one cannot visually confirm that it is confined.

2. Making the Experience Memorable. Combine elements of anticipation, surprise, novelty and lack of distraction.

3. Dominance and Subordination in Learning. In human social interaction, we each alternate between dominant and subordinate roles. In our dominate mode we seem to be predisposed to leading, teaching and controlling our surroundings. In the subordinate role we are more likely to follow, learn and accept our surroundings. Dominance among humans is signaled many ways. Frequently the dominant individual stands in an elevated position (a podium, lectern, altar, etc). If we place the animal being displayed in a higher, more dominant position, will humans anthropomorphically react with a subordinate response? Casual observation suggests this does in fact happen. Hopefully this response will make the viewer more predisposed to learn from the animal and its surroundings.

On the other hand, displays which place humans in a dominant position relative to the animal may predispose the viewer against learning and reinforce homocentric stereotypes.

4. Making the Message Clear. Traditional displays often present the animal in a prejudicial setting, in pits, behind bars, or in a tile-lined laboratory context. This message of human dominance and animal inferiority undermines conservation education despite the best efforts of the zoo's education department (Coe 1982, 1987).

5. Making the Experience Specific. Whether in poetry or narrative, specific images are said

to be more powerful and memorable than generalities. This is also true in exhibit design. While total accuracy in simulating nature is, of course, impossible, a landscape redolent with realistic details is far more evocative than the generalized park landscape of the naturalistic era.

Criticisms of Immersion Exhibits

1. Cost of the Exhibit. While immersion exhibits are more expensive to develop and maintain than facilities of turf and wire fencing, they are not necessarily more expensive than equally elaborate displays of a modernistic or "high-tech" approach. In larger exhibits, the heavily landscaped habitats require less constant maintenance than traditional park landscapes, but do need more periodic and specialized care. The rapidly raising costs of all exhibits have more to do with their increasing size, complexity, prominence and materials than with the specific style.

2. Animal Visibility. Another common criticism is that the animals are frequently hidden from the public. Good design should minimize this problem by placing areas most favored by animals such as shady or basking areas, entrances to night houses, etc. very near public viewing areas. Sometimes, however, even in the best habitats, animals need seclusion.

3. Restrictions to Animal Management Practices. One often hears the concern that popular animal toys, such as beer kegs and boomer balls, cannot be used because they don't look natural enough. Many zoos have solved these problems by finding more natural alternatives such as fresh browse, crickets, and unprocessed vegetables.

Beyond Landscape Immersion

The exhibit display method, whether modernistic or immersion, establishes the context within which animals and visitors interact. However, there are many other important dimensions which must supplement this context to achieve optimal results. (Some of these items are still on the horizon.)

1. Good Interpretation of the setting makes it intelligible and brings it to life for visitors.

2. Vernacular Cultural Exhibits such as simulated native villages or field research camps can make exhibit areas more interactive and demonstrate the essential human dimension in conservation.

3. Habitat Theater encourages novel ways to learn about animals and habitat and personalizes the visitor's experience.

4. Behavioral Enrichment and Training results in more active animals behaving more naturally. Training allows animals to be rotated through a series of exhibits, demonstrating natural movement through a home range.

5. Underwater "swim through" simulated coral reef exhibits are adding new meaning to the concept of immersion.

6. High Tech electronic systems which can establish the location and individual identity of animals will add information and interactivity to exhibits.

7. Electronic Barriers can be hidden, or even portable allowing visitors to walk among herds of hoofstock or troops of primates without conflict. Similar technology will more effectively protect vegetation, creating even more realistic habitat simulations.

8. Nocturnal Exhibits are expanding to immerse visitors in indoor simulated night landscapes.

9. Overnight Safaris will greatly multiply the usefulness of simulated habitats and provide a

nocturnal experience without the present necessity of day/night reversal.

10. The Theory and Technology of immersion exhibits is already being used in planning a visitor center in Kakum National Park in Ghana and in mitigating tourist impact to Nairobi National Park. I predict that one day these techniques will be valuable in re-establishing damaged wild habitats around the world.

Conclusions

The landscape immersion approach arose from the naturalistic exhibit traditions of Hagenbeck and Akeley. It is a response to our increased concern to protect wild animals and wild places by educating and involving our urban populations. This approach benefited mutually from parallel development in exhibit materials technology and craft and the introduction of contextual exhibits in museums.

Use of immersion exhibits seems to give great scope to affective learning and, based upon its present popularity, adds important recreational dimensions as well.

The papers which follow will discuss recent evaluations of a few excellent immersion exhibits, but far more study will be needed before the complex interrelationship between context and learning in immersion exhibits is fully understood. In the mean time, the approach will continue to evolve with each new application.

We have already moved far beyond the initial experiments of the 1970's, but it is comforting to realize that as these simulated landscapes continue to mature into their second decade another generation of zoo visitors is enjoying an exciting experience of animals and landscape, inseparable.

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