

ZOORASSIC PARK: A BRIEF HISTORY OF ZOO INTERPRETATION

Dhun and Hema Karkaria

Editor's note: A similar presentation was given at the Indian Zoo Directors "Two Days Meeting-Cum-Seminar" in Bombay on 19th and 20th January 1999. This paper was submitted to the Central Zoo Authority, New Delhi, on 7th December 1993 for circulation to members of Evaluation Committee for Large, Medium and Small Zoos and to other committee members and chairs for information. As such, it has not been sent for peer review but published somewhat abridged with minor editorial changes.

Background

There is tremendous pressure today to impart information/education to hordes of people who visit our zoos and other public institutions. The environmental crises have reached such alarming proportions that every zoo has had to include "Education" as a priority area along with conservation and research. However, while it is possible to trace the origins of zoos in India, as well as be in a position to both systematically and chronologically document the history of conservation and research, little is known of the history of zoo education or the trends (if any) that might have emerged. These trends provide valuable clues as to how to interpret a given zoo to its full potential.

Intimate Links

In this paper our endeavour is to show how intimately interpretation is linked to different eras that the zoos have gone through and how we cannot ignore interpretation while following different eras of zoo design.

For example, in the days of "menageries" interpretation was restricted to the name of the animal and the country of its origin. The "Linnaeus" zoos adopted the "taxonomic method" of arranging specimens, and interpretation was restricted to the name, scientific or Latin name of the animal and comparative anatomy and physiology. It illustrated the biological classification and showed how related animals were similar to one another.

In the "Hagenbeck period" the emphasis was on the exhibit itself and Hagenbeck himself did not have any pretensions about science or education. The interpretive opportunity was to show how animals co-existed with one another in an eco-system.

When the "zoogeographic classification" became popular it became possible to give visitors a glimpse of the animals' eco-system and the inter-relationships between one animal and another. This arrangement also permitted interpreters to illustrate the concept of niche and thereby explain adaptations in relation to habitat.

When zoos went through the era of "modernism" interpretive messages were presented in a list or outline corresponding to categories such as range and diet.

In the "post modern era" interpretive messages were restricted to animal behaviour and other fascinating/entertaining aspects and finally with the advent of "immersion exhibits" the interpretive media became non-obtrusive and thus non-architectural in form and interpersonal communication has given a very wide scope to interpreters.

The above examples make it amply clear that we cannot divorce interpretation from the arrangement or an era a particular zoo follows. The challenge to interpreters becomes enormous if a

zoo is a representative of a mixture of different eras. By the same token it would be a grave mistake to copy signages designed for a zoo which has zoogeographic arrangement and transport them to a zoo which has taxonomic arrangement. Every zoo needs a separate study and within the zoo every enclosure needs a separate treatment for interpretation. There is little point in talking about habitat or habitat loss in a wayside exhibit when the animal is displayed in a glass and tile enclosure. We can do so only at the cost of our credibility. It should also be borne in mind that since one of the most important forms of communication is to display an animal in relation to its habitat, interpreters (zoo educators or persons trained in interpretation) should be made equal partners for any new developments or alterations to be made in a zoo.

Planners, policy makers and managers also need to understand fully and clearly as to what is interpretation, its scope and its management. Most planners and managers have only a vague notion of interpretation, that it is a science as well as an art which has been perfected over decades. More importantly, it is interpretation which can play a leading role in changing the attitudes which would lead to a reversal of many of the environmental crises we face today. To fully exploit the potential of interpretation and make it effective as a solution, however, separate cell in the Ministry of Environment and Forests, Government of India, as well as a special Education Officer in the Central Zoo Authority itself is required. Interpretation cannot be done as an "additional charge".

Keeping India's Natural Heritage

India's biodiversity is formidable, one of the largest caches of biological richness in the world. There are many opportunities to see examples of it and many people take advantage of these opportunities by visiting national parks, zoo, aquaria and other captive facilities, and botanical gardens and parks. Consider the following figures:

- Roughly 8 to 10 crore people visit 153 captive wildlife centres every year.
- If Aquaria, Snake parks, Safari parks Deer Parks and Nature education centres are included, then the figure is as high as between 12 to 15 crores.
- Add to this 326 National Parks and Sanctuaries which may have visitations of around another one crore.
- Botanical gardens and gardens number around 78 and visitations to such places may be anything from half a crore to one crore.

Hence even a conservative figure would show that around 18 to 20 crore people visit the biological sites of India every year. The 1991 census puts our population at 844 million or 84.4 crore. By taking the figures of 18 crore (on the conservative side) of people who visit biological heritage sites alone in a year the percentage of people works out to a staggering 21.3% of the total population of India or more than 1/5th of the total population!

Director, Karizma Communications, 1 Hansol Company, Opp. Housing Society, Opp. Sardarnagar Police Lines, Hansol, Ahmedabad 383 475

These visitors come and go back on their own, bring their own food or pay for it, pay entry and other fees, pay for accommodation and by virtue of their visits contribute substantially to the generation of wealth and employment in the country. All this they do with their own money and resources. They come because of their own curiosity (though we do advertise certain places) and are certainly keen on experiencing first hand the natural heritage of India. There is not even the slightest doubt that this 'heritage' is one of the most diverse heritages anywhere in the world and that it is stupendous. That this heritage is threatened and is disappearing due to our action (or the lack of it) is also not disputed. Nor is it disputed that very little, if any of this, is going to be preserved or conserved unless people are made to care for this heritage.

Yet, what do we do with these millions of visitors when they come to see this heritage? We treat them almost as a nuisance, as a headache and with little respect. *This is borne out by the fact that even the best of our places go un-interpreted.* Many of the best of our monuments and archeological sites, zoos, aquaria, national parks, marine environments and botanical gardens don't even have a semblance of an interpretive programme. Occasionally a tin-sheet is hammered onto a tree with the common and scientific names which become corroded or vandalized in short order. In surveying many of the zoos and biological heritage sites we find some informational signs. All too many of them, however, are painted on the ubiquitous tin sheet, badly written, edited, illustrated, fabricated and installed.

At some places which even are called "interpretation centres", films are shown on run-down equipment. There are also panels full of text which pass off as exhibits and a few dusty stuffed-animals, old books and faded and warped posters on the walls of the building serving the purpose of a visitor centre.

What an opportunity lost! When visitors are actually looking at the 'real thing' we teach them nothing.

It is agreed that 'guided interpretation' may not be a reality today in India, but 'self-guided-interpretation' is quite capable of fulfilling the needs and aspirations of both the visitor and the management, and can be carried out with some effort and expense. The dividends brought in as a result of this effort and expense would be far in excess of the investment.

Perhaps no public institution has changed as dramatically in the last 15 to 20 years as zoos have. The advances, specially in North American zoos, are stunning. While most zoos were content to change their objectives on paper to conservation and environment education, research and breeding of endangered species, others have transformed the statement on paper into reality and have made such significant advances that this period can truly be called the era of Renaissance in the area of zoo management.

This Renaissance has not confined itself to physical improvements alone. Unlike any other public institution, these zoos have ensured that commitment to education, research and breeding is made a reality, and art, science and administrative skills have been combined harmoniously to take on the challenges posed by the ever deteriorating environment. These zoos have ensured that every specimen becomes an opportunity for research, education and breeding. Today, the vast majority of exhibit specimens, including endangered species, have been bred in captivity. Care is taken to ensure that the zoo-bred species retain as much of the wild instincts as possible so as to repopulate them in habitats from where they have become extinct or endangered. In a matter

of years these zoos have become producers rather than consumers of wildlife. Skills and sensitivities required to deal with zoo animals and zoo goers have been acquired to deal with both painlessly.

On the other hand, and unlike many other areas of development where India has made remarkable progress, most of us, are not aware of what a great zoo is capable. Few zoo directors have had an opportunity to study outstanding places like the Arizona-Sonora Desert Museum in Tucson, Arizona, which have tremendous relevance to a country like ours. I

At the other extreme are the horrendous iron and concrete cages where animals are housed as if they are being punished for inflicting crimes on the human race. Besides having a terrifying impact on the animals, such cages have an even a deadlier impact on the zoo visitor, for such inhuman cages communicate to the visitor such messages as that these animals are "dangerous" and "harmful" to the society!

Before tearing down these cages and constructing new ones of more attractive materials, however, we should be aware that — without a quantum leap in awareness of architectural advances for zoo exhibits — there is every likelihood that the new enclosure may be only marginally better than the one demolished. If a new start is to be made then a hodge-podge of architecture is to be avoided.

The various eras of zoo design

To understand the scope of interpretation in the zoo environment, zoo managers will benefit by tracing the historical progression of the zoos from royal menageries, to Linnaean taxonomy, Hagenbeck panoramas, zoogeographic arrangements, modernism and finally to abstraction, realism and landscape immersion. Indian zoos are a mixture of all the above, as if they are museums whose sole objective is to "preserve" each era of zoo enclosure design!

The Royal Menageries:

The Rajahs and the Maharajas collected both because of their awe and reverence for the wild as well as the hatred and fear they felt for it. The collection were housed in a cage which would complement the royal surroundings, imitating the palaces in which the royalty lived. The architectural style of the day got translated into the zoo cages with decorative enclosures and landscaping. This style reflected the royal wealth, power and indulgence and ignored the requirements of the animals enclosed. Mysore Zoo still has some of these enclosures and landscapes which reflect the thinking of this era, although many have been demolished or remodelled. Most royal collections were private but they were later opened to the public and even after centuries it continued to influence zoo design. Interpretation in this era was limited to a label briefly identifying the animal and its country of origin.

Linnaeus and Taxonomic Interpretation:

After about 1735, Linnaean classification had a profound impact on the organization and interpretation of zoo collections. This is also the time when zoo authorities became conscious of the "gaps" in their collection. While following the taxonomic approach, they realized they did not have certain species and rushed to acquire a complete collection.

Clearly defined sections like "Reptile House", "Primate House", "Cat-section" etc., are relics of this era. Such taxonomic organization of exhibits helped in the interpretation of comparative anatomy, physiology and, in some cases, evolutionary relationships. However, it does little to promote the understanding

of ecological relationships and the importance of habitats. While Indian zoos largely kept pace with this development, they failed completely in the interpretive messages that could be presented using the taxonomic approach.

Hagenbeck Approach:

Carl Hagenbeck was a successful animal dealer and entrepreneur who trained and supplied animals to the many zoos that were springing up across Europe in the second half of the nineteenth century. Acquiring his own zoo, he landscaped his it in such a way that he could do away with bars and cages and had the animals exhibited in moated enclosures. His landscapes had waterfowl exhibits in the foreground, ungulates (prey species) in the middle and carnivores (predators) in the often rocky background. The animals were still captive but their captivity was well hidden by judicious placement of various moats, plants and rocks as well as carefully laid out paths to ensure that nothing interfered with the look of the exhibit. All artificial structures were kept out of sight of the visitor.

This way of exhibiting animals caught the imagination of not only the zoo visitors but also the zoo planners. Zoos all over the world copied this idea. Zoos that were fortunate enough to see this zoo themselves made good copies of Hagenbeck's idea. Zoos that were thousands of kilometers away had to rely on articles, photographs and occasionally an account from someone who had seen this zoo personally. Copies were made of copies until many of the substantive improvements that Hagenbeck made became trivialized.

In India while cages were ripped apart at many zoos and replaced with moats to the delight of the zoo going public, the many constraints faced by the zoo authorities ensured that the exhibits remained a poor copy of the Hamburg zoo. Skills required to make artificial rock and moats could not be found. Relaying the pathways was an expensive proposition and so was shifting or relocating infrastructural facilities so as not to interfere with the exhibit. While we did adopt the concept of the moated exhibits, the complex overlapping sight-lines gave way to pie-wedged rows of exhibits where one was the same as the next. There may be only half-a-dozen examples of a genuine Hagenbeck exhibit in India despite Hagenbeck himself having been consulted when the National Zoological Park was proposed!

The zoogeographic arrangement

Many zoos have tried to arrange their collection geographically, that is, organizing the collection on the basis of where the animal lives. The main benefit of this system is that it gives a visitor a clearer picture of the animals' ecosystem and the inter-relationships between one animal and another and its habitat. The visitor here can be made to grasp that grasslands support the herbivores and the herbivores support the carnivores as well as be made aware of energy and food chains. How the balance is maintained in nature as well as what causes the imbalance can be forcefully brought out. Typically, such zoos will have sections like "The Asian Zone", "The African Zone" etc.

The task of an interpreter in such zoos are clearly defined and education has a great scope for dealing with the subject holistically. Almost all aspects of the natural world as well as environment can be dealt with here. However, whatever method of arrangement Indian zoos have adopted, education or interpretation has never been a part of the Plan. Whatever is there has been added haphazardly after the exhibits have been constructed.

Modernism

One reason why animal enclosure design has suffered is due to the dearth of professionals (engineers, architects, designers, writers, public works department officials) who are well informed about natural history, ecology and environmental issues. This has time and again reflected on the zoo design, for everytime a change is desired, the job is influenced by public works department officials or architects, planners and bureaucrats who have little clue as to what the job entails. Thus when the issue of health and sanitation assumed importance, animal enclosures became glass-fronted, laboratory-like enclosures lined with tiles and equipped with stainless steel furnishings. While outdoor exhibits of this era were still influenced by the Hagenbeck approach, the rockwork as abstract expressions of natural forms got changed to plain walls of concrete and masonry.

We have seen many such enclosures in our Indian zoos which may have come about, not due to the global trend in zoo designs, but to the inability to grasp techniques and processes to make attractive artificial rock or an uncultivated sense of aesthetics. Also Zoo directors, because their services are transferable, spend a short period at a particular zoo. In the absence of a vision, or a masterplan for the future, changes in generally turn out to be incremental in nature.

Interpretive messages of this era tended to be expanded labels with information presented in list or outline form, corresponding to categories such as range and diet. Emphasis was on durability, and plastic and metal replaced wood as the most popular sign substrate. One aspect of this era was to place the interpretive sign outside the reach of the visitor. Often the signs were placed within the enclosures. Ingenuity consisted of placing the sign in such a position that no harm can come to it.

Post Modern

This is an era which has not touched Indian zoos as yet. This is mainly so because "high tech" has not yet reached our country as it has to some of the developed nations. Here the architectural style is sleek and futuristic and so are the graphics. For example, in one facility the live penguin exhibit is so long that visitors are carried on a conveyer belt, and behind the glass bacteria free snow is continuously "manufactured" to keep the temperatures to the required degree. Signages resemble computer graphics and the total ambience is that of a video parlour. A classic example where interpretation competes with, rather than complements, the live exhibits for attention!

Animal shows are part of the post-modern zoo style. Zoos frequently profess that the show consists of only the natural behaviours of the whale and that no tricks are performed which are far removed from their natural way of living in the wild. However, making animals perform wrong behaviours for the VIPs had become an art form in India and, thankfully, came to an end with the passage of the Zoo Act and Zoo Policy. The respect and awe that a powerful animal evokes while seen in the wild needs to be rekindled. This will happen if the animal is seen experienced in its natural setting.

Immersion Exhibits

The last two decades have seen an emergence of exhibit design which reconciles perfectly both the need of the animals and the need of the visitors. Today, the zoo director sees his job as that of a conservationist. Visitors think the zoo owes them spectacular entertainment. Many NGOs and conservationists look upon zoos with contempt and as places which torture and deplete wildlife. Zoos have gone through different eras in hope of reconciling these diverse and seemingly contradictory needs. Immersion exhibits may be an answer to this dilemma.

An immersion exhibit is an enclosure design in which the visitor feels 'immersed' within the enclosure. There is no sense of a barrier. Hence if a lion flattened his ears and crouched in an attacking position while looking at you, or a gorilla charged beating his chest, you would run for your life as you would in the wild. The enclosure is landscaped with the use of both real and artificial material giving an extremely real impression of the animals' habitat. Skills, materials, techniques and processes employed for the creation of natural history museum kind of dioramas are used with such finesse, coupled with the removal and concealment of all man-made elements that you never feel for a moment that you are in a zoo! This is extremely important as the first goal of interpretation is to present a given animal in relation to its habitat. All other media employed are secondary to this. The interpretive media employed at such exhibits are also unobtrusive. Self-guided booklets, audio guides and guided tours are solutions that are inherently non-architectural and therefore unobtrusive.

Make a beginning

We can make a beginning at some of our Zoos which are in a better position financially and politically, and the result may become passed on to new zoos or new exhibits in other zoos. However, to revitalize an institution with a hybrid of approaches requires a will and support at the highest level. We desperately need a collective will at the national level for our zoos if they are to become the best in the world.

Zoos are the world's biggest classrooms. As mentioned earlier, between 8 to 10 crore people visit zoos every year. No other place attracts so many visitors. They come to learn, to have fun and to experience the heritage first hand. If ever there was a wasted opportunity in the history of education, this is one. It is like running a school at an enormous expense with no educational activity. It is a classroom which daily gets filled-up but no teacher ever shows up. The teaching resource (the animals) get neglected

and suffer for want of a responsive environment.

The task of renewal must begin with master plans which involve interpretive planners be important and equal partners in the renewal of our zoos as well as designers and architects. Sensitive and well informed interpretive planners can use the findings of field staff and scientists together with appropriate indigenous technologies to create a holistic zoo environment. Even today, a well thought out interpretive plan can unify the seemingly unrelated elements of our zoos. This need not be, and cannot ever be, a one time job. People and agencies dealing with interpretation should be recognized as full-time partners and should be able to exercise control over both the existing as well as the future programmes at the zoo.

The heritage of this country is thousands of years old and the history of our zoos itself is 138 years old. All these years, this wonderful heritage has gone un-interpreted. We must bring the joy of the wild and the joy of learning to our people. Ten crore people cannot be ignored. We have the captive animals and a captive audience.

What we do not seem to have is a capacity and a will to captivate this vast audience.

References:

- Cherfas, Jeremy, Zoo 2000-a look beyond the bars, 1984
- Bierlein John, "Interpretation and the Zoo Renaissance" Legacy, the journal of the National Association for Interpretation. Vol.II, No.2 March-April 1991.
- Karkaria Dhun and Karkaria Hema, "Capacity Building for Interpretation: A case study of India", February 1992.
- Karkaria Dhun and Karkaria Hema, "Beyond Signage"- Interpreting India's Heritage, February 1992.

Riding the Tiger : Tiger Conservation in Human-Dominated Landscapes

Edited by John Seidensticker, Smithsonian Institution, Sarah Christie, Zoological Society of London, and Peter Jackson, IUCN, Geneva
Foreword by Richard Burge, Cambridge University Press

Beauty, grace and power make the tiger one of the world's most loved animals, yet it is precisely these qualities that have been its downfall. Poaching for skins and body parts, loss of habitat and prey and conflicts between people and wild tigers have caused catastrophic declines in Tiger numbers throughout their range. If wild tigers are to survive through the next century, we must act now. *Riding the tiger* is a comprehensive, scientific and eminently readable account of the problems and possible solutions of securing a future for wild tigers.

Lavishly illustrated in full colour, it is written by leading conservationists working throughout Asia. It is a vital information resource for tiger conservationists in the field, necessary reading for serious students of carnivore conservation biologists in general, and an accessible overview of tiger conservation for general readers.

350 pp 51 line diagrams 28 half-tones 80 colour plates 51 tables
Hardback 55.00 pounds; Paperback 19.95 pounds. Publication C. January 1999.



Contents:

Foreword; Preface:

Part I. Introducing the Tiger:

1. Ecology, behaviour and resilience of the tiger and its conservation needs; 2. Tiger distribution, phenotypic variation and conservation issues; 3. Subspecies of tigers. 4. The tiger in human consciousness;

Part II. Tiger Ecology: Understanding and Encouraging Landscape Patterns and Conditions Where Tigers can Persist:

5. Population dynamics of the Amur tiger in Sikhote-Alin;
6. Hierarchical spatial analysis of Amur tiger relationships to habitat and prey;
7. Prey depletion as a critical determinant of tiger population viability;
8. Long-term monitoring of Indian tigers;

9. Tigers in Panna;

10. Last of the Indonesian tigers; a cause for optimism;
11. The status of the Indochinese tiger;
12. Mapping the metapopulation structure of Thailand's tigers;
13. Metapopulation structure of tigers in Nepal;

Part III. Approaches to Tiger Conservation:

A: Linking in situ and ex situ tiger conservation

Customer Service Department,
Cambridge University Press
Freepost (With in the UK)
The Edinburgh Building,
Cambridge CB2 1BR, UK.