CHAPTER 9

CONCLUSION

A sun bear searches for food rewards in an enrichment log

Don’t mistake a clear view for a short distance.

Grand Canyon hiking advice.
Since their inception, zoos have provoked considerable comment and criticism because they contain live exhibits in captivity. Zoos have maintained that their activities in education and conservation have justified the keeping of animals in captivity (Chizar et al., 1990; Serrell, 1981), while their opponents have argued that there were insufficient reasons to deprive animals of their freedom (Jamieson, 1985, 1995; Sommer, 1972). Robert Sommer (1972) asserted, ‘Despite excellent intentions even the best zoos may be creating animal stereotypes that are not only incorrect but that actually work against the interests of wildlife presentation’. Although Sommer may have been one of the first to question the educational objectives in zoos, considerable concern arose from the publication of Dale Jamieson’s ‘Against zoos’ in 1985. He suggested that the roles of zoos were in fact incompatible, and argued that their educational and conservational roles were difficult to defend. Jamieson was particularly critical of zoo practice, claiming that there was no justification for their existence. He summarised his thoughts when he wrote:

Zoos teach us a false sense of our place in the natural order. The means of confinement mark a difference between humans and animals. They are there at our pleasure, to be used for our purposes (Jamieson, 1985:117).

Unsurprisingly, these ideas were not widely accepted, particularly when Chizar et al. (1990) published their work, appropriately titled ‘For zoos’, which carried a rebuttal of most of Jamieson’s suggestions. Since then, the zoo debate – whether there is a need for them, and if so, why – has continued. In 2007, the deaths of animals at Taronga Zoo generated considerable media comment, which culminated in the thoughts of Bob Beale and Michael Archer who wrote:

We need zoos and botanic gardens for our urbanised children to see, hear, feel and smell their fellow travellers in the great web of life – you’ll never get that from a book, a TV show or a computer (Beale & Archer, 2007).

Throughout their history, zoos have produced many perplexing and unacceptable events that have revealed the many and varied relationships existing between humans and wild animals. Since they are not merely some recent aspect of human activity, it is important to consider an account of this unique human/animal history, so that by recounting part of the its fascinating aspects, a useful background for assessing the intrinsic worth and ethics of zoos may be achieved.

When the importance of ecology emerged as a matter of public interest about a quarter of a century ago, some sections of society began to consider that zoos, as straightforward areas of entertainment, were no longer justified. As zoo professionals increasingly became
more aware of the philosophy of preservation and the concern for wildlife, the concept of the zoo changed from that of a menagerie, which basically housed a collection of animals, to a scientific establishment which concentrated on animal preservation and conservation. As public sentiment relating to the care and concern for wildlife began to expand, so too did the demand for improving the design of animal enclosures. With this new ‘naturalistic’ development, zoos had the facility to interest their visitors in the wonders of the natural world and to display biological phenomena in an obvious and convincing fashion. Despite the wide range of programmes which been rapidly developed to enhance the lives of captive animals, little research has been devoted to examining the degree of visitor appreciation of the modern zoo, or to studying aspects of the human experience and their understanding of exhibits.

Although the main interest of zoos has centred primarily on the keeping and display of animals, the visiting public is an important component of zoo activity, particularly since visitors have provided the necessary financial support that has kept zoos viable. It would seem, therefore, that an analysis of visitors should be an integral element for all planning carried out in the zoo. The fact that this process has so often been neglected is, for the most part, the result of a scarcity of useful information. This research showed that it was possible to generate a considerable amount of valuable information, leading to improved understanding of the range of insights exhibited by the visitors. Although the investigation provided new and useful information, as with all statistical data there were a number of limitations. It is possible that local interests and preconceptions may have influenced the conclusions reached, particularly since a number of results were specific to the individual zoos studied. Although it may be difficult to extrapolate the findings directly to other zoos and institutions, particularly where direct comparisons are difficult to make, a considerable potential exists for the development of an understanding about people who visit the zoo and the reasons they make the effort to spend time looking at captive wild animals held in artificial enclosures.

By no means can zoos be considered a minor or recent aspect of human activity. The keeping and display of animals has had a long history, extending over more than 4,500 years. Since they were first seen in ancient Egypt, collections have been gathered together and displayed throughout the world for various purposes. From the paradeisos gardens of ancient Egypt, to the seraglios of Rome, these collections developed into the menageries of the Renaissance times.
In recent years the focus of most modern zoos around the world has, of necessity, changed drastically. No longer are they simple places of entertainment, where people can enjoy leisure time as they look at wild animals. No longer are visitors amused by circus-like activities and festival-type performances. As the world’s human population skyrockets past six billion and jungles vanish at an alarming rate, thousands of plant and animal species are becoming extinct. With large tracts of natural vegetation disappearing before the relentless advance of the human race, with its needs, its greed and its frightening lack of understanding, there is an increasing concern for the world of nature. Zoos now find themselves at the forefront of efforts to conserve and preserve animal species. Zoos are still places of recreation and enjoyment, but changes in public expectations have added the conservation and preservation of wildlife to their roles (Dengate, 1993).

As a form of museum (Alexander, 1979; Hudson, 1990) zoos are unique, not only because they display unusual living collections, but also because the maintenance of living creatures requires constant care and attention. They are similar in that they are essentially educational in purpose and they own and conserve tangible objects which are exhibited for the visiting public. As Alexander (1979:99) pointed out ‘A zoo contains a collection of labelled animals to be protected and studied while incidentally providing enlightenment and enjoyment’. The main difference between zoos and other more conventional forms of museum is that the zoo’s exhibits are alive (Davis, 1996). People perceive this world of nature in different ways, depending upon their individual interpretations and their viewpoints. It is these perceptions that shape their appreciation of animals and consequently the patterns of their viewing behaviour when they visit the zoo.

As a gathering place, the zoo is a museum with the potential for visitors to receive more from an exhibit than simply some information provided on a sign or mentioned in an advertising brochure. This research identified that it is possible for visitors to learn in the zoo environment. People see things according to what they know and recognise, and they subsequently develop different meanings according to what they perceive and comprehend. According to Hein’s theory of constructivism, knowledge exists only through the process of knowing, and meanings are constructed by individuals (Hooper-Greenhill, 1999). For many people, the zoo may be more accessible, more personally satisfying, and potentially more effective for developing understanding than many conventional educational resources.
This research investigated the way in which the different animal exhibits in the zoo attracted the attention of visitors. Using techniques which had been found to be successful in the museum sector, a profile for the zoo visitor was developed. As the amount of information relating to visitors was developed, the importance of this profile became apparent, particularly since it provided key information for zoo administrators, predominantly in the fields of marketing and promotion. It was considered important to understand public interest, since visitors often responded negatively to what they interpreted as unnatural behaviours in the captive animals in the zoos whilst they responded positively to enriched habitats which stimulated species-typical behaviours. This research showed that the amount of attention animals received from the viewing public was directly proportional to the animals’ visibility and activity. The findings further demonstrated that the holding power of an exhibit was influenced greatly when animals were observed manipulating various enrichment items, which enhanced visitors’ overall experience, as well as affecting some of their preconceived ideas. The exhibits which visitors liked best in the zoos were those that attracted and subsequently held their attention for longer periods of time. The diverse interests and backgrounds of zoo visitors varied widely. Typically, visitors to the zoos had a limited amount of time at their disposal, and at the end of their day’s experience were often physically exhausted. Quite apart from the limitations of time, visitors were often frequently overwhelmed and confused by the quantity of sensory input. The findings highlighted the need for further research on the zoo’s role in educating visitors about contributing to conservation.

Rosenfeld (1980) outlined a number of ways in which the impact of an exhibit could be measured as visitors seek to construct interactions with animals in a zoo. This research showed that considerable variations existed in the viewing patterns of the different visitor categories, and that the attention of visitors was attracted for a variety of reasons. Reade and Waran (1996b) noted that there had been little research into the way in which the general public perceived zoo animals, and even less research into visitors’ understanding of the needs of animals. The findings discussed in this thesis examined the appreciation of visitors and their comprehension of different exhibits, to reveal something of the intricate nature of the connection between the animals in the zoo and the people who came to see them.

Currently the main method of keeping animals in zoos is in semi-naturalistic enclosures that provide the features animals require and allow them to exhibit their natural behaviour (Bostock, 1993). Although many viewers considered that a functional naturalistic
enclosure would be ideal for animals, it must be acknowledged that this may be difficult to achieve. Visitors believed that more naturalistic enclosures were those which gave the illusion of seeing the animals in a wild environment. Although some differences of opinion relating to the use of enrichments were found, viewers considered that the animals’ welfare should take precedence over aesthetics of the enclosure. This emphasis was consistent with that found in research by Kreger et al. (1993). The importance of natural-looking enclosures in zoos, such as the zebra enclosure at Adelaide (Plate 9.2), was emphasised by Barbara Woods, who wrote, ‘Natural environments encourage natural behaviours. Natural behaviours inspire visitors’ (Woods 1998:30).

Plate 9.2: Zebras in their enclosure at Adelaide Zoo, the only enclosure in an Australian metropolitan zoo that provides a grass substrate for zebras. The foal was born at the zoo during the research period.

McManus (1987) reasoned that the more visitors became mentally absorbed in a display, the more they needed to think and the more they became immersed in the exhibit. In this research, it was concluded that although visitors initially considered zoo exhibits simply as ‘things to see’, once the animals commenced manipulating enrichment devices, visitors became more aware of the different enrichments present and they appeared to become psychologically absorbed in the activities of the animal. In general, visitors were both entertained and intrigued by the different behaviours and movements displayed by the animals. These behaviours were both negative (such as coprophagy, pacing, lying asleep or inactively resting) and positive (such as play, exploring, feeding or enrichment usage). As
visitors observed and appreciated the different behaviours they assimilated new information and adapted their old ideas to include new realities. Consequently their thinking was extended in a process that formed the very essence of learning.

Often visitors appeared to consider that animals had been placed on display solely for their own personal enjoyment, or that animals were performing simply for the entertainment of the people present. It was not uncommon to overhear visitors call on an animal to act for them in some particular fashion. Similarly, visitors were frequently heard to ask the animals to pose for their cameras. In many cases these visitors believed that their demand had been complied with and that the animals had actually smiled for them! Often spectators drew erroneous conclusions, sometimes after only a few seconds of viewing, apparently constructing these conclusions on the assumption that the dynamic, changing exhibit in the zoo was the same as the static, immovable display witnessed in the museum. Such conclusions were common when the animals were resting inactively or pacing.

Polakowski (1989) indicated that visitors are impressed with things as they are presented, not necessarily as they are; consequently, as Bitgood and Patterson (1987) stressed, it is important to understand that perceptions formed by visitors may be inaccurate. Throughout the progress of this research it became apparent that there was danger in allowing visitors to draw their own conclusions either from the enclosure itself or from the behaviour of animals in enriched exhibits. The findings of this research suggest that visitors should be given the opportunity to learn about the natural habitat of animals and the way in which they exist in their wild surrounding, particularly in the case of animals that are now endangered as the result of removal of their habitat due to the human activity.

Zoos have changed radically in the past one hundred years. At the beginning of the 20th century, zoos were places to see wild and exotic animals, displayed primarily for amusement and entertainment. Wide formal pathways displayed animals with the main emphasis on identification and classification (Wineman & Choi, 1991). Typical was the advice, ‘Birds look best, on the whole, in uniform rows, assorted according to size as far as classification allows’ (Hancock in Wonders, 1989:135). A century later, visitors wander past lushly planted environments designed to give them the sense they are actually in the animals’ habitat and to provide them with an experience of the way animals live in the wild. As zoos continue to expand their role and develop their public image, the concept of the ‘zoo animal’ will also change and expand. Large mammals still comprise more than 40% of the species
exhibited, and visitors to the zoo continue to express a desire to see them. However, smaller animals, which require far less exhibition space, could well become popular with the zoos of the future. Adelaide has a small insect display in the children’s section, and Taronga has developed a small insect collection in its Backyard to Bush exhibit.

It was evident that with the presence of enrichment in enclosures it was possible for misconceptions and misinterpretations to develop in visitors’ minds. On occasions, visitors regarded these devices as artificial and ‘non-natural junk’ (Plate 9.3); others considered that if an animal played with these artificial items then its behaviour was abnormal; still others considered that enrichments had been placed in the animal’s enclosure solely for the benefit of viewers. However, the majority of viewers agreed with the concept that using enrichment items was beneficial for the animals, although many of the respondents had not recognised their actual function. Through gaining an indication of the ways in which zoo visitors perceived devices such as old tyres, milk crates and manufactured items, valuable information was acquired which could be utilised by the zoos in developing and improving educational programmes for their visitors.

Plate 9.3: Assorted enrichment items in the old elephant enclosure at Taronga Zoo. Some visitors regarded these items as ‘unnecessary junk’, whilst others saw them as being ‘vitally important’ for the welfare of the elephants.

The enclosure had a lot of junk in it, it looked old, awful and unnatural – the elephant was not happy (TEo27)
Zoo visitors evidenced an anthropomorphic view of the animals. They wanted to relate to animals which they thought were happy, active, healthy and having fun in a stress-free environment. Thus it appeared that there was a potential for educating zoo visitors about enrichment usage, so that the zoo could be more informative and interesting for them. Discovering which enrichments visitors are receptive to and which enrichment features attract visitor attention is a key to improving the general understanding of enrichment and as such represents another area for future research. Wolf and Tymitz (1981) stated that the greatest concerns of most visitors to the zoo were that captivity was comfortable, and that the animals appeared to be healthy and happy.

The visual message received by the viewing public in a zoo is of prime importance in terms of education, since any exhibit should provide an understanding of the way in which animals live and behave naturally (Burton & Ford, 1991). There is a practical educational reason for considering the aesthetic value of an exhibit, particularly since some objects could be regarded as aesthetically unacceptable in many modern exhibits (Kreger et al., 1993). Visitors regarded the use of manufactured toys and artificial enrichment devices as important for the welfare and needs of the captive animal, particularly the ways in which they could be used to stimulate natural hunting patterns (as with the lions and their bungy ball) or overcome certain stereotypic behaviours (as with the sun bears). It was apparent that if visitors judged the standards of a zoo on the cleanliness of its enclosures, certain manufactured enrichments might give the false impression that an enclosure was dirty and that the animals were not sufficiently cared for by their keepers. In this regard the fake termite mound should be seen as a useful and important part of the chimpanzee enclosure rather than just an unsightly rock (Plate 9.4), the pile of old leaves as an important substrate rather than just litter, and the artificial Boomer Ball® as an essential behavioural component rather than just a toy.
The brief tenure of the science of environmental enrichment in zoos has, to date, centred upon animal welfare. Although it is difficult to define and measure, most zoo professionals agree that the enriched environment enhances animal welfare. This research showed that the majority of visitors did not fully understand enrichment use. Visitors wanted to see active animals during their visit, so they enjoyed seeing animals playing with treat logs or investigating areas for hidden food supplies (Plate 9.5). Although initially the various enrichments were not fully appreciated, nor understood, once the animal started interacting with the different items, individuals viewed for significantly longer periods of time and subsequently began to consider reasons for the use of enrichments. This increased length of stay enriched and enhanced the visitors’ overall experience of their day at the zoo and were considered to result in a deeper acceptance, not only of the animal itself, but of what the zoo was attempting to achieve in its efforts to improve the quality of care for captive animals.

This research established convincingly that the use of enrichment was a significant factor in enhancing the overall experience of the zoo visitor, both from the position of recreation and education. It is accepted that the longer a visitor studied an exhibit, the greater the potential that some form of educational message could be received. However, it needs to be pointed out that although there was a correlation, interest was not necessarily the same as knowledge: an observation previously made by Falk and Dierking (2000). Responses to
surveys indicated that visitors were much more likely to use their zoo visit to confirm pre-existing understanding rather than to build new knowledge structures. They actively selected what they wished to observe and what they wished to ignore.

Plate 9.5: Gorillas Safiri and Shabani finding food rewards in their enrichment.

‘By making animals feel that they are in their natural habitat, one improves their welfare and at the same time improves the aesthetics of their enclosure for the human visitor’

(Robert Young, 1998:18).

Some critics have argued that the use of enrichment devices should not be necessary within a zoo environment. These arguments have revolved around two factors: firstly, that the different enclosures should be designed in such a way that welfare problems and behavioural issues are avoided; secondly, that animals should not be kept in captivity. Should the first argument relating to the design of animal habitats be accepted, it needs to be emphasised that ‘stress-free’ exhibits have not always been possible for a number of reasons, some of which are historical, some economic, but mainly due to lack of knowledge of the actual behavioural needs of the different animals. Should the second argument be accepted, a large number of animals would quickly become extinct (Snowdon, 1989). A number of animal species which now exist only in captivity have been saved from extinction. Examples of these include the
Père David deer, Przewalski horse (Plate 9.6), Californian condor, European bison, Arabian oryx, Hawaiian goose and golden lion tamarin.

Plate 9.6: Przewalski horses feeding at Monarto Zoo. The Przewalski, the last remaining true horse, is an example of an animal species that became extinct in the wild. Following successful breeding in zoos these animals have been re-introduced into their natural areas in the deserts of Mongolia.

In his studies of learning outside the school classroom, Falk (1976) showed there was consistent evidence for learning in museums, much of which confirmed strong interrelationships between learning and setting. It has been generally accepted that zoos represent areas for free-choice learning, a term suggested by Dierking and Janette Griffin (2001), who explained that free-choice learning was self-directed, voluntary and, rather than following some form of set curriculum, was guided by the learner’s needs and interests. Zoos have consistently been shown to generate positive feelings and high levels of interaction with the different features of the physical environment, which make learning possible. Leonie Rennie and Terry McClafferty (1996) considered that zoos were potential sources of informal, or flexible, learning. Rennie (1994) surmised that learning was unlikely to occur if visitors found the exhibits unpleasant. This thesis has argued that visitors’ perceptions of the zoo, zoo exhibits, the use of enrichments and animal happiness provide an important link between free-choice learning and the efforts of the zoo in providing such items as environmental enrichment.
In the past animals have been treated simply as another form of tourist resource to be trivialised and exploited (Davis, 1996). Throughout this research, it appeared evident that if they should seek to educate their visitors, zoos need to define plainly their objectives and priorities, particularly since the potential exists for them to educate as well as entertain (Durrell, 1990). Learning in the zoo requires an understanding of the reasons why people initially choose to visit and what affects them during their visit. Although most visitors came for a day of fun and enjoyment, almost without exception they realised and accepted the importance of learning in the zoo environment. Public sessions such as free flight bird shows and seal theatre demonstrations, along with keeper talks at feeding sessions, with considerable learning potential, were perceived by visitors as ‘fun’ activities. These activities not only promoted informal learning in the zoo, but also minimised the likelihood of inaccurate information. The surveys used in this research considered only perceptions and attitudes and did not evaluate any learning benefits. It is suggested that benefit could be achieved with further research in this area.

This research suggested several other areas for future examination. Further studies generating more data will greatly enhance the understanding of visitor reaction to zoos and their inhabitants. Both Reade and Waran (1996a) and Morgan and Hodgkinson (1999) have indicated that the educational impact of zoos on visitor learning has not been fully explored, and is consequently not fully understood. Throughout the progress of this investigation, questions continued to arise which suggested further possible areas for research. For example, in what ways can signage be developed to explain the various activities and behaviours of animals? What differences exist in the perception of pet and non-pet owners towards the animals on display in the zoo? Why do some people choose to visit certain exhibits and not others? What are visitors’ perceptions and understanding of naturalistic exhibits? What form of educational message is received by viewing different exhibits? The answers to all these questions can be with the use of techniques similar to those employed in this thesis.

Researchers and statisticians, particularly from the field of social science, have accepted that objective measures form the mainstay of audience research, particularly since such information is based upon facts which have been reasonably easy to obtain. However, these objective measures have failed to indicate the reasons and motivations as to why people actually visit. Although on occasions a few zoos have performed objectively based visitor surveys, little research has been carried out which has dealt with subjective measures. Collectively known as psychographics, subjective measures centre on attitudes, interests,
opinions and motivations (Ferguson, 2004). Public interest in the different activities in the zoo is considered important, since it was shown in this research that visitors were concerned with what they deemed to be natural environments and unnatural behaviours, and they responded positively to enriched situations that stimulated what were often interpreted as natural behaviours.

Over the last few decades, zoos around the world have attempted to shed their image as entertaining menageries and present themselves as centres of conservation. Despite these efforts, the general public has retained the long-standing image of the zoo as a place of recreation. The visiting public is indispensable to the survival of any zoo. Not only do visitors provide the vital source of revenue, their attitudes and perceptions shape the impressions which they will convey to others, something over which the zoo has little if any control. Audience research is the key to understanding why people visit multifaceted institutions such as zoos. It should be an integral component in all the organisation, planning and development that take place within the zoo. It should precede every major decision and undertaking carried out. Despite their shortcomings, social surveys can play an important part in providing vital information relating to the public, their beliefs, their attitudes and their behaviour. Through the gathering of accurate and reliable data, the possibility exists for the findings not only to provide the answers to vital questions that address gaps in knowledge, but also to improve relationships with the public who are the life-blood of the institution itself.

There are limitations to this type of research. It is possible that the results could vary between seasons, between different zoos, between different countries, or over periods of time. The findings from one zoo may not necessarily be applicable to other zoos. However, the work clearly demonstrated the way in which museum techniques can easily be adapted for use in zoos, to gain a better appreciation of the way in which zoo visitors think about the institution. Further, it developed an approach which can be adapted in other zoos to provide valuable information, particularly since so little research has been carried out with visitors. Only by comparing different zoos can a full understanding of visitors be developed.

Like traditional museums, zoos across the world are constantly faced with an assortment of challenges as they endeavour to survive and advance in the world of the 21st century. With the steady increase in population numbers, higher standards in education, trends towards early retirement and improvements in mobility, the possibility exists for zoos to increase their market potential. However, these factors can be offset by an increase in
competing leisure attractions, many of which receive strong financial support or funding. This assistance allows these services to improve not only their quality and appeal, but also to utilise stronger publicity, advertising and promotional campaigns in an attempt to attract more visitors and consequently to increase revenue. Competition has resulted in the need for organisations to adapt a more responsive approach to the many different requirements of their audiences, and the zoo is no exception. Before making essential and far-reaching decisions which relate to their public, it is essential that zoos examine their visitors more accurately by collecting and analysing information and closely scrutinising the patterns that appear in the results.

Although the goals of the modern zoo already include education, research, conservation and recreation, as centres of tourist activity they are dependent upon visitor satisfaction. The director of Smithsonian’s National Zoological Park in Washington, Michael Robinson (1994:41) wrote that the biological and conservational messages of zoos are ‘best reinforced by beautiful, exciting and mind expanding activity from our animals’. Without question, the main attractions of zoos are the animals; however, the efforts made to display these animals to the visiting public have a marked impact upon attracting the attention of viewers and encourage learning and understanding. The Emperor Wen Wang established one of the earliest zoos in China when he developed a 6070 hectare park, which he called Ling-yu. This name means the Garden of Intelligence, which must surely be an appropriate name for the modern zoo as it attempts to attract people through its gates to observe the different animals on display.

Throughout time, zoos have changed. They have been popular for centuries and will continue to be so. In the urban setting, zoos offers their visitors the rare opportunity to view a wide range of exotic animals from many places around the world. As such, these collections represent the only chance many people will have in their lifetime of seeing such animals at close proximity. The challenge which now faces zoo administrators is to introduce appropriate changes into their organisations that will match the nature of the visitors that they serve. One effective method of discovering the nature of these visitors is through the application of visitor studies, some of which have been discussed and explored in this thesis. By watching people watch animals, this thesis explored the paradoxes of the zoo and developed a better understanding of the visitors. This research has looked at two major metropolitan zoos in Australia. With a long history, each has continued to thrive despite the fact that some sections of society have been sceptical about zoo practices and others have indicated mixed feelings.
about the ethics of keeping wild animals in captivity. As both zoos continue to attract large numbers of visitors each year, they offer experiences that inspire curiosity and learning about the natural world and enable the community to better understand and contribute to a future where humans live in balance with the natural world. This work has shown that, since their inception, zoos have experienced the best of times, they have experienced the worst of times: this has been a tale of two zoos.