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Increasing Affiliative Behavior Between Zoo Animals and Zoo Visitors

Jon Charles Coe, FASLA
CLRdesign inc.
Since 2003: Jon Coe Design, Pty. Ltd,
Contact: jon@joncoedesign.com

Abstract

Recently opened great ape exhibits at zoos in Los Angeles, Philadelphia and the Bronx are designed to improve the way people and apes relate to each other. This paper defines "Affiliative Design" and suggests ways to increase affiliation within great ape groups, and between great apes, caregivers and zoo guests.

Definition of Affiliative Design

AFFILIATE: "To accept as an associate, to associate with." (*American Heritage Dictionary*); "fellow, partner, ally, colleague" (Roget's II: *The New Thesaurus*)

AFFILIATIVE DESIGN: The arrangement of activities, spaces and features in collaboration with management practices, which encourages affiliative behavior among and between people and other animals.

Introduction

Dr. Heini Hediger diagnosed behavioral problems attributed to poor zoo enclosure design as early as 1950. Could these concepts be further advanced to increase affiliative behavior between animals, caregivers and zoo guests? This paper introduces the concept of affiliative design, recognizing that these ideas and many of their underlying assumptions have not been confirmed scientifically. However, some ideas must be built before they can be tested.

Elements of the concepts to be presented have been developing at many American zoos, including Woodland Park Zoo, San Diego Zoo, Zoo Atlanta, Oklahoma City Zoo, Denver Zoo and the Louisville Zoo. Most recent applications have been at the Los Angeles Zoo's "Chimpanzees of the Mahale Mountains", Philadelphia Zoo's "PECO Primate Reserve", and the Wildlife Conservation Society-Bronx Zoo's "Congo". Some of these examples will be elaborated by other members of this panel. New gorilla exhibits at the Riverbanks and Louisville Zoos also feature

affiliative design concepts. For this reason, my presentation will deal with great ape exhibit design, although other species may also benefit from this approach.

Increasing Affiliation within Great Ape Groups

Both aggressive and affiliative behavior is a natural part of primate life (Goodall 1986, de Waal 1982, 1989). Certainly some especially dangerous forms of aggression such as infanticide cannot be controlled through facility design. The consequences of other forms, such as status competitions, perhaps can be reduced in severity through appropriate facility design, when partnered with effective management.

1. Increase access to resources. Distribute key resources such as shade, shelter, food, water, prospect and behavioral enrichment features widely throughout the site. For example, providing several cool, shady areas in hot weather allows the apes to choose where and with whom they wish to be. It also assures that low ranking individuals are able to enjoy the amenity.
2. Provide continuous pathways, both terrestrial and arboreal, which avoid dead ends where fleeing apes could be cornered.
3. Provide several “throne” areas, comfortable high perches from which dominant individuals can overlook their habitats as well as surrounding public areas and approaches. These throne areas must be large enough to accommodate several apes at the same time. As an example, the Los Angeles Zoo chimpanzee exhibit features a high stone ledge under an artificial rock overhang near a cooling waterfall. This area is designed using sun angles to insure warming sunlight for basking during mornings, evenings and winter days, while providing cooling shade in summer. It also provides a broad territorial view.
4. Allow subordinate individuals to escape the attention of dominant apes by subdividing the enclosure using landforms, plantings and other features.
5. Provide focal points for collaborative ape activities such as artificial termite mound feeders and food puzzles. Locate many of these near public viewing areas. This concept is especially well developed at the Los Angeles Zoo chimpanzee exhibit and the Wildlife Conservation Society-Bronx Zoo “Congo” exhibit.
6. Provide complex linear exhibit areas, which encourage the troop to travel from place to place. This approach seems to be popular with male chimpanzee bands that actively patrol their enclosure perimeter.
7. Provide sound absorbing features in indoor holding areas. Use construction materials that also serve ape communication needs, without creating a cacophony which can upset the entire troop.
8. Provide visual access between holding and isolation areas so that social contact can be maintained within the group.

Increasing Affiliation between

Great Apes and Zoo Guests

Both people and great apes vary widely in their individual natures and experiences. A showoff teenager may behave rudely toward gorillas. A chimpanzee male who has mastered the game of throwing feces at visitors may not abandon this (to him) rewarding pastime despite improved exhibit design. Nevertheless it may be possible to increase affiliative behavior between apes and humans in our zoos.

1. Avoid locating public viewing areas above ape areas. In "Design and Perception" (1985), I suggested that humans in socially dominant (i.e., higher) positions are predisposed to direct and influence those in inferior (i.e., lower) positions. They may unconsciously exert their influence by making the apes acknowledge their presence. Great apes, being closely related to humans, may not only be disturbed by disruptive human behavior, but may initiate stylized combat by preemptively throwing objects when humans approach from above. While these circumstances do not explain all throwing incidents by apes, they should be avoided whenever possible.
2. Provide settings in which both people and apes are presented to each other on roughly equal terms, or favor the minority community (usually the apes). For example, keep both species on equal level (or equally varied levels) or give the higher ground to the apes. In one especially exciting area of the new "Congo Gorilla Encounter" glass tunnel, the gorillas are several feet above human viewers, whom they can pass overhead. This area is proving to be very popular with both gorillas and human visitors.
3. Avoid "drawing a line in the sand", which means establishing an obvious position that will be aggressively defended. A traditional moated exhibit barrier can be thought of symbolically as a "line in the sand," with one group (human) aligned in phalanxes on one side and the other group (the ape troop), vastly outnumbered, defending their side of the frontier. With two very similar species, such as humans and chimpanzees, each known to aggressively defend and expand territories, it is no wonder that some form of confrontation may occasionally occur. As Dr. Cox will describe in her paper, the old chimpanzee exhibit at the Los Angeles Zoo had this unfortunate configuration. Abusive behavior such as jeering and other threat displays, as well as throwing objects, was common by both people and apes. By contrast, the new exhibit designed using affiliative design principles, avoids creating such large obvious frontier areas. A complex and varied system of moats, walls and glass barriers is used instead.
4. Mirror the habitats of both apes and people. For example at the Los Angeles Zoo visitors may sit in an amphitheater to observe the chimpanzees, which may sit in a natural amphitheater of turf and rocky ledges to observe the visitors. At the Philadelphia Zoo, people and other primate species enjoy similar areas, with the same resilient flooring, wall finishes and colors.
5. Provide a variety of smaller, dispersed encounter areas, distributing visitors and apes in smaller groups. Aggressive behavior tends to draw a crowd, which can intensify and spread negative behavior. Smaller human groups may also appear less threatening to apes.

6. Provide encounter areas where the ape group can surround visitors on two sides as well as places where humans can surround apes on two adjoining sides.
7. Provide abundant through-glass viewing where people and other primates are able to approach each other closely. Initially, Los Angeles Zoo caregivers opposed the use of large areas of viewing glass, fearing that the previously observed aggressive behavior between people and chimps would be exacerbated by proximity. However, just the opposite results were observed from the same chimpanzees in the new exhibit. Young chimpanzees were exchanging “high fives” (elevated hand touches) and kisses with visitors through the viewing glass. Many visitors have remarked that, having looked closely into the “intelligent eyes” of the apes has greatly enhanced their appreciation; one could say their affiliation, with the great apes.
8. Provide a one-on-one “howdy” experience between people and apes. At the Los Angeles Zoo, short sections of artificial hollow log were joined on opposite sides of the viewing glass. Small children and small chimpanzees each crawl into opposite ends of the hollow log, meeting for a personal “howdy” at the viewing glass in the middle. In a later version of this concept installed at the Philadelphia Zoo, boxes designed to resemble ape shipping crates are joined at the viewing glass. Again, children climbed into one side (often three or four at a time) with parents peeking in after them to observe a young orangutan, “Mango”, who was using his side of the crate as a nest box. Research is needed to establish if these up close, personal encounters create lasting favorable impressions, but zoo visitors, as well as young apes, seem to be very enthusiastic about their “howdy” experiences.
9. Provide elevated ape perching opportunities at glass viewing areas that allow apes and people to meet “yet-to-eye”. The “howdy logs” and “howdy crates” just described fill this role very well. “Chaka”, Philadelphia’s silverback gorilla was observed perching his huge bulk on a “howdy crate”, thereby getting close to the children while still maintaining a dominant elevated position relative to adults. As another example, “Teak”, a young male orangutan at the Louisville Zoo, frequently hangs from an upper window frame that brings him eye-to-eye with humans, with whom he may exchange a through-glass kiss. The Los Angeles Zoo chimpanzees frequently exhibit this affiliative behavior.

Increasing Affiliative Behavior among Zoo Caregivers, Great Apes and Visitors

With the movement toward more naturalistic displays, night quarters and other service areas were hidden from public view. In response to visitor complaints that they could no longer get close to the primates or meet their keepers, Louisville Zoo and Philadelphia Zoo initiated programs to increase animal and keeper visibility. Both now feature exhibits where caregivers and great apes can interact on public view. Caregivers and apes often develop affectionate bonds which visitors seem to enjoy observing, perhaps increasing the visitor’s sense of affiliation with both the non-human primates and their caregivers.

1. Positive reinforcement training is inherently enriching to both trainer and subject (Laule, 1992), and one could extrapolate, it is inherently affiliative.
2. Provide areas where primates can observe caregivers at work in kitchens, offices and conference rooms, as has been done at the Philadelphia Zoo.
3. Provide opportunities for caregivers and researchers to observe apes easily in their outdoor habitats as well as indoor community rooms and to quickly respond to both emergencies and affiliative opportunities.

Conclusion

“Building a bond between people and the planet”, the Louisville Zoo’s motto, describes one of the major roles of zoos. Building upon the work of Hediger, Lorenz, Skinner and contemporary behaviorists, affiliative design provides positive opportunities to enhance the natural sociability of people and other primates, encouraging them to enjoy each other’s company. What could be more natural? What could be more important for building the early and lasting bonds needed to support the long-term survival of endangered primates and other species in our human dominated world?

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