



Creating the Nation's first BioPark

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Letter from the Desk of David Challinor
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I started this letter on day 659 of the pregnancy of Shanti, the National Zoo's 17-year old Asian elephant. A rescued orphan, she was given to the children of the U.S. in 1977 by the government of Sri Lanka and accepted at the Zoo by Amy Carter. During her life here Shanti has grown up with our other elephants; her herd now consists of four adult females (three Asian elephants and one African). An all female group is a natural one in the wild as young male elephants are ousted from the group into which they are born when they become sexually mature.

For breeding, Shanti and her keeper traveled by moving van to Syracuse's (New York) Burnet Park Zoo, where she stayed for 20 months. She and the bull elephant there were compatible and Shanti was successfully inseminated. While there Shanti also witnessed an elephant birth -- an important experience for a zoo-raised animal, which helped prepare her for her own offspring.

Breeding elephants domestically in the U.S. is more common now than previously. The management of elephants has become increasingly sophisticated. For example, bull elephants during a condition known as musth sometimes behave unpredictably. Musth is evident when the male secretes a dark fluid from its temporal glands on each side of its head. Although thought at one time to be related to the male's reproductive cycle, recent evidence indicates that musth is not directly connected. According to Joyce Poole's work in Amboseli Park, Kenya, musth increases the social stature of bulls, thereby increasing the probability of their being able to compete successfully with other bulls for females. Though male elephants can breed when not in musth, their chances are better when in that condition.

Today elephant males can be constrained for medical examination and treatment in enormous squeeze chutes, which are scaled up versions of those used in the cattle industry. The animal is trained to walk regularly down a narrow passageway, and when it reaches the sides of the chute, a barrier is dropped ahead and behind. The sides gently compress to hold the elephant immobile for whatever treatment is necessary. This is a much safer way to administer medicine or to draw blood than to immobilize the animal down with powerful tranquilizers. Under medicated conditions an elephant falling in a wrong position can crush its lungs with its own great weight. The risk of damage to an elephant from being squeezed in the chute is almost nil, which is why virtually all elephant breeding facilities use squeeze chutes.



About ten zoos in North America have one or more breeding bull Asian elephants, including one in Busch Gardens, Florida that has sired 15 offspring. There are even two private owners of breeding bulls, one in Illinois and one in southern California. The largest breeding herd is that of Ringling Brothers Circus which keeps 26 elephants in Williston, Florida as a source for performing animals in their traveling show. From these breeding herds, between three and five young Asian elephants are born annually in the U.S. and Canada, offsetting natural mortality among a total North American population of about 350.

A like number of African elephants are in American zoos and private collections, but only about 15 African elephant young have ever been born in North America. Despite there being 15 bull African elephants available for breeding, none are used for this purpose because of an oversupply of these animals. In 1983 Arthur Jones, the designer and manufacturer of Nautilus exercising equipment, imported at his own expense 96 young African elephants from Zambia. They have since all been distributed to zoos and in the next decade will be mature enough to breed. There is presently little incentive to breed African elephants because they are more abundant in the wild than the Asian ones.

Management of the two different elephant genera is identical. Despite stories to the contrary, African elephants are just as trainable as Asian ones, although the former, for complicated cultural reasons, have not been domesticated on the same scale. The Carthaginians used the now-extinct, smaller sub-species of north African elephants as war animals during Hannibal's campaign against the Romans in 218 BC. Scientists believe these elephants disappeared due to loss of habitat. Before independence in the then Belgian Congo, African elephants were being trained to work, but the enterprise ceased during World War II. The effort has had a modest revival in recent decades in Zaire, but not having had a strong local cultural tradition, the training of African elephants has been limited. There are, however, currently five or six trained African elephants which tourists can use for safaris in Botswana.

Graceful, intelligent and indeed awe-inspiring as elephants are, they are difficult to manage, and the percentage of elephant keepers killed each year while on duty is slightly higher than that of police officers killed on duty. To put this risk in perspective, among fewer than 1,000 elephant handlers in North America, roughly one keeper is killed by an elephant each year. The reasons vary, but in the wild, matriarchal herds maintain a strict pecking order. Such a ranking is also kept in zoos, but the keepers have to be dominant over all their charges. Should that person ever be off guard, his/her authority may be challenged with occasional fatal consequences.

Elephant handlers soon realize that although they can train their charges, they are by no means tame. They still act independently and their behavior, like that of humans, is individualistic. At the National Zoo handler trainees only enter an elephant enclosure when accompanied by two experienced keepers. Depending on the personality and past experience of the trainee, it takes from six weeks to six months before he/she can enter an enclosure with only one other keeper. Normally two keepers work together when making physical contact with their charges, and both have to remain fully alert to the least challenge to their authority.

The policy at the National Zoo, called "free contact management," is to maintain as much physical contact as practicable between the elephants and their keepers. Such daily contact maintains and develops the bond between handler and animal, thereby increasing the ability of the elephant to respond promptly to the keepers' commands. [An alternative to the National Zoo's approach (called "Protected or Limited Contact") is to place barriers between human and elephant.] Spoken commands to their charges are generally followed promptly, but if necessary an order can be supplemented with a rap on the leg or trunk with an ankus, a three-foot long heavy wood or metal rod hooked and pointed at one end. It is used sparingly to give directional cues or to enforce a command but never to injure the animal. In other words, keepers must earn the respect of their charges, a relationship gained only by long hours and hard work.

Despite the dangers of working with these pachyderms, the rewards more than offset the dangers. A strong feeling of camaraderie thrives among what many consider the elite of animal keepers. An example of such bonding was the visit to the National Zoo when Shanti gave birth of Chuck Doyle, the mammal curator at the Burnet Zoo.

All the Zoo's staff have important roles in guaranteeing its successful operation. This letter has focused on elephant keepers in particular. In subsequent letters I plan to describe the fascinating work of the Zoo's veterinarians, nutritionists and other dedicated employees so that you can share with me the interest and enjoyment I have in working with these marvelous people.

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P.S. This letter is so late because I was in the hospital until January 25 with blood poisoning, but I am happily on the road to recovery.