# Chapter 13

## Protected Contact and Elephant Welfare

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Captive elephant management in the 21st century: by all appearances it is as emotionally charged and contentious as it was in previous decades. Elephants continue to be the subject of unprecedented attention, scrutiny and debate. Numerous guidelines, standards and recommendations for all aspects of elephant care including housing, space, social groupings and training have been produced, with varying degrees of objective scientific evaluation (Clubb & Mason 2002; AZA 2003; Olson 2004; CCEW 2005; Appendices I, II). Consensus on management issues has been hampered by a lack of concise and candid information about each management system and the specific tools and techniques used and approved within it (AZA 2001; Olson 2004). Furthermore, both of the primary management systems, traditional free contact and the more recent protected contact, seem to be connected to distinctly different perspectives on how elephants are viewed, and managed, relative to other captive species.

The free contact approach is most closely aligned with the view that elephants have social, psychological and physical needs that are so distinct and unique from any other species that they require a whole set of specialized management techniques. Although this may appear reasonably sound on the surface, this view has led to the use of certain methods of management that are counter to conventions used with most other taxa. For example, keepers would never routinely enter the same space with a bear or rhino, yet it is done with elephants. It would be considered unacceptable for a keeper to strive for social dominance over a snow leopard, yet free contact keepers attempt to establish and maintain this type of relationship over elephants. It would be unacceptable to routinely employ the techniques of negative reinforcement and physical punishment with gorillas, yet these techniques are used regularly with elephants in a free contact system.

In contrast, protected contact is most closely aligned with the perspective that elephants are no more or less unique than any other species held in captivity. This view acknowledges that elephants are indeed unique, with their own specific needs, yet insures that management techniques are consistent with the rules and practices applied to other captive animals. It also encourages the free flow of information, for there is much that can and should be learned and applied across species.

There are options in management systems and each should be carefully evaluated on the basis of its relative costs and benefits for elephant care and welfare. Acknowledging the highly opinionated and contentious environment surrounding elephant management issues, we suggest three basic rules to follow to aid in this evaluation and to maximize the potential welfare benefits for captive elephants. First, strive for utmost clarity in defining and implementing the system being used. Second, when making choices in methods, tools and techniques, always choose the *most* positive option, and be prepared to defend and support your choice. Third, in the decision-making process,

use science when it is available and fairness and reason when it is not. Move past differences in opinion and into the realm of fact and objective assessment whenever possible. To do so completes the loop, as objective assessment leads to, and requires, clarity.

**Clarity in defining protected contact**

A "system" of managing any captive animal has several key elements: it is definable—all the tools, techniques and underlying tenets can be clearly defined, described and applied to a variety of situations and contexts. It provides for all aspects of the animal's care and is transferable among staff members and to other institutions if the animal is relocated.

Protected contact and free contact are both systems for managing elephants that meet all the criteria described above. The official American Zoo and Aquarium Association (AZA) definition of protected contact is as follows (2003): "Handling of an elephant when the keeper and the elephant do not share the same unrestricted space. Typically, in this system, the keeper has contact with the elephant through a protective barrier of some type, while the elephant is not spatially confined and may leave the work area at will." This is contrasted with the definition of free contact where the keeper and elephant do share the same unrestricted space. The two primary elements in these definitions are the physical location of elephant and keeper, and the presence or absence of a physical barrier. There is no reference to the tools, techniques or human/animal social dynamics (important elements of each system) that distinguish one form of management from the other.

Protected contact has two equally important fundamental objectives—keeper safety and animal welfare (Desmond & Laule 1991, 1993; Lenhardt 1991). As the original creators and architects of protected contact, and for purposes of clarity, we define protected contact in the following way: protected contact is a system for managing elephants that uses positive reinforcement training as the primary method to modify behavior and gain the voluntary cooperation of the animal. Physical punishment is prohibited. Directing the positioning and movement of the elephant and shaping behavior is achieved through the use of targets. Keeper safety is achieved by elephant and keeper positioning relative to each other and to a barrier, which typically separates human and animal spaces. Trainers function outside the elephant social hierarchy and do not attempt to establish a position of social dominance (Laule & Whittaker 2000).

Since the introduction of protected contact to the zoological community in 1991, over half the zoos in the United States have converted their programs to this management system. However, during this time there has been significant drift in many facilities in how protected contact is implemented. For example, in our travels around the country we encounter elephant management practices that are called protected contact or "modified" protected contact, in which trainers simply move to the other side of the physical barrier and give commands to the elephants. In these situations, the trainer may continue to carry the ankus, use an authoritative voice to give commands and maintain a dominance-based relationship. According to the AZA definition, this would qualify as protected contact. According to our definition, it does not. *Protected contact is not free contact conducted from the other side of a barrier.* It is a separate and distinct form of elephant management that is defined by its specific tools and techniques, not just by keeper position and the presence of a barrier. The simplistic view allows, and even invites, misinterpretation.

These various "modifications" of protected contact have been fueled and supported by AZA in two ways. The Elephant Husbandry Resource Guide published in 2004 is the husbandry manual distributed by the AZA Elephant Taxon Advisory Group (TAG) to all member institutions housing elephants. The Principles of Elephant Management (PEM) course is required for all elephant managers of AZA-accredited facilities. Both the Resource Guide and the PEM course promote the

position that there are no distinct differences between free contact and protected contact training systems, only a continuum of options. Although used routinely throughout the industry and in publications, journals and conference proceedings, the terms free contact and protected contact never appear in the entire Resource Guide and are mentioned cursorily in the PEM course.

Unfortunately, this position inhibits rather than assists elephant managers in evaluating the relative costs and benefits of the choices they make and the impact of those choices on animal welfare (Adler 1996; Laule & Whittaker 2000). Clear and concise thinking is fundamental to any problem-solving process—we must strive for clarity to assess and choose our options. Although there are certainly similarities between systems, it is the differences that may be most relevant, and we have to be willing to look at these openly and honestly in order to assess options and make an informed choice.

**Tools of protected contact**

The tools of protected contact are simple: a conditioned reinforcer such as a whistle or clicker, targets of varying lengths and food reinforcers. The primary technique and foundation of protected contact training is positive reinforcement. Operationally, we are gaining the elephant's voluntary cooperation in everything from basic movement and daily husbandry routines to more invasive medical procedures. To do so requires addressing proactively any signs of fear and discomfort in relation to a particular event, person, situation, location or object (Laule 2003). This is done through desensitization, a powerful and versatile training technique that is integral to protected contact. Desensitization works by pairing positive reinforcement with the frightening event or object. Through the direct relationship between the fear-inducing stimulus and the presentation of many positive reinforcers, over time fear associated with that event is diminished. According to the AZA PEM course notebook, the official tool list for protected contact includes the ankus or "guide" as it is now referred to euphemistically, the premise being that the tools of free and protected contact are interchangeable. In fact, the use of an ankus in protected contact violates the fundamental principles of a system based on positive reinforcement, and subsequently diminishes its welfare benefits to elephants (Laule et al. 2000). This position also inhibits clear, informed decision-making when assessing, choosing and transferring a management system.

The role and context of the human/animal relationship is also an important element of elephant management systems. In protected contact, it is not necessary, nor is it appropriate, for the trainer to be socially dominant. In fact, attempts should be made to diminish this type of relationship. This is in direct contrast to traditional free contact training in which the establishment, and maintenance, of human social dominance over the elephants is fundamental.

Positive reinforcement is the primary method of behavioral modification in a true protected contact system. This means that all positive reinforcement options are pursued and exhausted before resorting to any unpleasant or aversive techniques. We recognize that in the real world there will be those times when negative reinforcement or non-physical punishment may be necessary. We acknowledge that all elements of operant conditioning contribute to learning. However, being true to a protected contact management system requires that the highest priority of implementation is the strict commitment to use positive reinforcement as the primary means by which new behavior is taught, undesirable behavior is addressed and non-routine procedures are dealt with.

Finally, protected contact is designed to allow elephants to exercise a high degree of choice and control, to experiment and to make mistakes without negative consequences. When undesirable behavior, such as non-compliance or aggression, must be addressed, operant conditioning offers three appropriate and acceptable methods to use: extinction, training of incompatible

behaviors and mild, non-physical punishment. The only form of punishment that has a place in protected contact is the use of the "time-out," which briefly removes the animal's opportunity to earn positive reinforcement of any kind. Physical punishment is prohibited and the only exception is a life-threatening situation for person or animal.

**Choosing the most positive option**

We have choices in what we do and how we do it. This rule is simple—assess the options objectively and deliberately choose the *most* positive one. For example, finding the most positive training approach applies across species and to all situations. In dog training, we can choose positive reinforcement methods over negative reinforcement and punishment; verbal correction over physical correction; a cooperative relationship over a dominance-based one; and so on (Donaldson 1996; McConnell 2003). For progressive dog trainers, the more positive the method, the more preferred it is. In horse training, individuals like Tom Dorrance (1987) and Pat Parelli (2003) have made careers, and improved the welfare of countless horses, by advocating the most positive methods of training. In the biomedical community, Institutional Animal Care and Use Committees are directed to evaluate studies based on this principle. The Animal Behavior Society's guidelines (2000) on the use of Aversive Stimulation and Deprivation with animals in behavioral research state:

> "To minimize possible suffering of the animal, the investigator should ascertain that there is no alternative way of motivating the animal, and that the levels of deprivation or aversive stimulation used are no higher than necessary to achieve the goals of the experiment. Alternatives to deprivation include the use of highly preferred foods and other rewards which may motivate even satiated animals." (p. 4)

In the keynote speech at an Ethics and Animal Welfare conference in 1998, James Battye of the Department of Philosophy at Massey University in New Zealand made the following comments regarding the treatment of animals in biomedical research:

> "If people who work with animals are seen to have fair and reasonable views, are seen to be putting them into practice and to be working on lifting their game still further, public confidence and respect will surely follow. If you can show that not only does the good you do outweigh the bad, but also that it does so to the greatest possible extent, and that you are always on the lookout for new ways to increase that margin, you can open the doors of your laboratories with pride."

Generally speaking, most zoo professionals are already applying this philosophy to captive animals in several ways. Zoo-wide training using positive reinforcement and avoiding negative reinforcement is becoming commonplace in the United States (Reichard 1992; Whittaker 2006). The move to husbandry training is a very real way of improving animal care and welfare by gaining the animals' voluntary cooperation in veterinary procedures while directly reducing the accompanying fear and anxiety (Reinhardt, Cowley, Scheffler, Vertein et al. 1990; Videan, Fritz, Murphy, Borman et al. 2005). This approach is preferable to restraining, coercing, tricking or forcibly administering necessary medical care (Laule & Whittaker 1998). For example, presenting a leg for an injection is a far more positive option than being chased and darted (Lambeth Lambeth, Hau, Perlman et al. 2006).

With elephants, we can apply this criterion to actively seek the most positive management

system to use. For example, maximizing the use of positive reinforcement and minimizing the use of negative reinforcement in all aspects of care and training is the first step (Abadie 1997). Second, assess the possible tools and make the most positive choice. For example, evaluating the choice between the use of an ankus or a target, would look like this:

An ankus:

- is used to cue and shape behavior
- must be established as an aversive stimulus and functions as a negative reinforcer
- is traditionally used to maintain the trainer in a socially dominant position
- is used to mete out physical punishment

A target:

- is used to shape, and sometimes cue, behavior
- is a neutral object the animal learns to move towards
- is associated exclusively with positive reinforcement

If we assume that either tool is sufficient to train new behaviors and maintain existing ones, clearly using a target is the most positive method. In our experience, we have never encountered a behavior we *cannot* cue and shape using a verbal command or hand signal and a target. Furthermore, no matter how gently the ankus may be used with an animal, at some point it had to be established as a negative reinforcer in order to be effective: that means causing enough pain and discomfort that the animal remembers, and seeks to avoid that experience by complying. It seems reasonable to ask, why would we want to continue to use a tool that is unnecessary and carries with it a history of pain, discomfort and human dominance? Doesn't that clearly break the rule of always choosing the most positive option?

**Science-based decision-making**

"Science-based" is a term being used a lot these days, often more as a wish than a reality, primarily because there are huge gaps in our knowledge of what elephants need and what methods best meet those needs. Therefore, a concerted effort is required to gather credible information from all areas of elephant experience, as well as objective information on other species that is relevant and appropriate to extrapolate in order to make sound decisions that maximize animal welfare.

What does science say about our choices in training strategies? Even a cursory search of the literature will reveal overwhelming evidence that the use of aversive techniques, particularly physical punishment, has many associated risks and negative consequences (Hediger 1950; Chance 1994; Hemsworth & Coleman 1998; Pryor 1999). Whether studying its use with children (referred to as power assertion) or in training dogs (Donaldson 1996), or in insuring compliance in behavioral studies with primates (Reinhardt 1992; Laule 2003), aversive techniques have been repeatedly found to be related to aggression, an increase in undesirable behaviors and the potential for suffering and diminished welfare (Moseley & Davis 1989; Reinhardt et al. 1990; Reinhardt 1992; Broom & Johnson 1993). Fairness and reason would lead us to a similar conclusion.

Studies with farm animals have shown that high levels of fear responses are associated with negative handling methods. This is somewhat surprising as these are domesticated species. In one study on handling of heifers using negative methods including hits, slaps and kicks, remote blood sampling through indwelling jugular catheters showed both acute and chronic stress response in fearful animals (Breuer, Coleman & Hemsworth 1998).

A study on dog training methods found that dogs trained exclusively using reward-based methods were reported to be significantly more obedient than those trained using either punishment

or a combination of reward and punishment. Dogs trained using punishment also exhibited more problematic behaviors including chewing household objects, stealing food and over-excitement (Hiby, Rooney & Bradshaw 2004).

Some studies also warn that just because animals comply and appear to be comfortable does not mean that is so. Markowitz and his colleagues (Line, Clarke & Markowitz 1987; Line, Morgan, Markowitz & Strong 1989) as reported by Forthman and Ogden (1992) have cautioned animal managers never to presume, without supporting data, that animals have become habituated to routine procedures and handling because their studies have demonstrated prolonged alterations in heart rate and cortisol levels after such routine procedures as cage cleaning.

Field researchers, who often have experience with vast numbers of animals over extended time periods, have developed information that is important to consider. Poole (2001) reports that, from her experience, African elephants do not "discipline their young," nor is discipline "...natural in elephant society [and] therefore something that an elephant can understand." Poole states that calves are "...protected, comforted, cooed over, reassured, and rescued, yes, but punished, no."

These are just a few examples of the science that is available and worthy of review in making decisions about how we manage elephants to maximize their welfare. If we accept the premise that elephants share an array of basic needs with other captive species, then a wealth of information and experience with a wide array of species is available, some of which can logically be extrapolated to decisions about elephant welfare.

Yet with huge gaps in our knowledge and in the absence of science to guide our decision-making, we must have another mechanism to assess options and make informed choices. As Albert Einstein said, "All things that matter cannot be counted and many things that can be counted don't matter."

In the absence of science, Battye (1994) suggests that fairness and reason are concepts upon which important decisions regarding animal welfare, and our ethics about it, can be grounded. By way of illustration, he rewrites the golden rule to read: "Treat others as you would want to be treated if you had *their* needs and interests, not as if you were in their place with your own needs and interests." His closing words to the biomedical community are relevant to the captive elephant community as well: "If you are determined to be fair and reasonable, there is nothing to fear." We agree, and suggest that, where science leaves off, we must be willing to support and defend our subjective decisions based on the principles of fairness and reason.

## Conclusions

There is a great deal of discussion these days about the importance of giving back choice and control to captive animals, and the huge benefits gained in the process. It is important to recognize that we humans do have tremendous choice in how and what we do. And, ultimately, we are the ones with the greatest control. So, the purpose of this paper is to suggest ways we can use our choices and control to better the lives of the elephants we care for. It is our belief that we can maximize the welfare of captive elephants by recognizing their uniqueness, as well as their similarities with other species. So the three rules we suggest are simple and reasonable, and can be applied to all captive animals: First, be clear and concise in what you do, and why you're doing it; second, when making choices about how to manage and care for elephants, always select the *most* positive option. And finally, in making your choices, use science when it is available, and fairness and reason when it's not.

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