

# Dealing with Parrot Intelligence and Cognitive Abilities in Daily Practice

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**Abstract:** It is important to acknowledge and to deal with the intelligence and cognitive abilities of parrots to prevent behavior problems. Ignoring the negative effects of human body language and human attitude is another reason for behavior problems.

A 5-step protocol is presented as a tool to show respect for parrots as intelligent prey animals, to reward desired behavior, to reduce the stress of handling and create mutual trust. Definitions concerning normal behavior, unwanted behavior, desired behavior, enforced behavior and displacement behavior are described as tools to understand parrot behavior. Using displacement behavior is described as a method to deal with parrots showing behavior problems.

Wing clipping can make it possible to offer parrots more freedom as companion bird and become part of the family flock inside and benefit outside from the social interaction, exercise, sun and fresh air. The disadvantages of having a parrot on the shoulder are discussed.

## Introduction

In general, there is still a lack of awareness that parrots are non-domesticated prey animals being kept in captivity as highly intelligent animals with remarkable cognitive abilities. Without understanding normal behavior and underestimating the high intelligence and cognitive abilities of parrots a wide variety of behavioral problems are apt to occur depending upon the individual parrot, species, and circumstances surrounding the bird.

## Behavior

Behavior in nature is based on innate behavior and founded on learning, experience, intelligence and cognitive abilities. Behavior is driven by the urge to survive as individual and as species. Dealing with parrots in captivity we need to understand that the behavior of parrots is determined by different factors including hereditary factors. To understand behavior we have to understand and learn about the principles of ethology. Looking through the eyes of parrots we have to consider that our body language and attitude determines the body-language and behavior of parrots.

## Parrots are built and behave as prey animals

Parrots are prey animals in nature. The fear of being killed as a prey animal determines a major part of normal behavior in nature. Fear of getting killed as prey animals can also be expected as normal behavior within captivity. A typical anatomical feature of parrots as prey animals is the positioning of their eyes. The eyes of parrots are positioned at the side of their head enabling parrots to observe the whole environment.

The eyes of predators are positioned in a way enabling the animals to watch straightforward using binocular vision. The eyes of humans are positioned as in predators like dogs, cats, owls and birds of prey having binocular vision. The perception of a parrot looking at humans that are talking and smiling to the parrot, showing their teeth, can be considered as being intimidated by a predator.

Dealing with parrots without understanding the consequences of the specific characteristics of parrots as prey animals is reason for parrots to develop insecure/defensive behavior.

### **Parrots are intelligent birds with amazing cognitive abilities**

Learning more about the intelligence and cognitive abilities of parrots we can conclude that parrots do understand our meaning, posture and attitude. Parrots learn by observing other birds, other animals and humans as part of their environment. Parrots draw their conclusions and behave accordingly. Dealing with parrots is like dealing with children that are eager to show and demonstrate what they have learned. The Model/Rival technique, described by Pepperberg is acknowledging the intelligence and observational learning skills of parrots.

Allowing myself as author some anthropomorphism: "From the viewpoint of parrots, it must be frustrating to experience not to be appreciated for their intelligence and talents but to be considered as just beautiful, funny and cute".

### **Definitions that are used within the Consultancy Practice for Birds to define different categories of behavior.**

#### **Normal behavior**

Normal behavior is species/individual specific behavior that is not meant to manipulate the caretaker. Examples are; eating, drinking, grooming, playing, sitting in the cage, sitting on the hand. It is the experience of the author that the outcome of rewarding normal behavior is that the bird will develop behavior to manipulate the caretaker to get attention. That behavior can be considered undesired behavior.

#### **Unwanted/undesired behavior**

Unwanted/undesired behavior is behavior that is meant to manipulate the behavior of the caretaker. This may include screaming, talking, biting, feather picking. Showing fear, frustration, anger, concerns and laughter will be considered as a response and thereby as a reward. Showing to have a problem will make the bird become insecure and reason to develop unwanted behavior. The outcome of rewarding unwanted behavior is obvious.

#### **Wanted/desired behavior**

The definition, used within the Clinic for Birds, for wanted behavior is behavior that is created/manipulated by the caretaker. It is behavior that the caretaker would like to see repeated in the future. Wanted behavior is not behavior that is the result of a command or a request. Wanted behavior is also not the behavior the bird is showing to get a treat. Rewarding wanted behavior, including rewarding their intelligence, is showing respect for the bird and will create self-esteem, mutual respect and prevent unwanted behavior. (1)

#### **Enforced behavior**

Enforced behavior is the result of a command, any kind of force or behavior motivated by a treat or food. Enforced behavior is also behavior out of fear for punishment.

#### **Displacement behavior**

Tinbergen (2, 3) as one of the founders of ethology has described displacement behavior in gulls showing territorial behavior. Instead of a fight or flight response, the gulls started to preen themselves, started to pull at grass as if they were collecting materials to improve the nest and showed looking away behavior. In a conflict situation in nature as well as in captivity parrots have the choice between a fight response or a flight response. Displacement behavior can be considered as the ultimate alternative behavior when a fight or flight response are not the best choices or even impossible. Displacement behavior seems to be completely "out of order" but is having the effect that the other parrot or the human caretaker becomes distracted and a new situation is created.

Typical examples of displacement behavior are nail biting, itchy behavior, grooming behavior, flapping the wings, shaking the tail, shaking the head, looking at the sky with one eye, and be funny. Grooming and preening has been associated with normal behavior that birds perform when the birds are comfortable and can be displacement behavior that the bird shows in a conflict situation (4) When we are responding to this behavior in a way that we are rewarding displacement behavior, we can expect that this behavior that is normal behavior in a conflict situation becomes unwanted behavior. Dealing with parrots we can expect to see displacement behavior in different conflict situations. The most common conflict situation is when parrots as prey animals are approached by humans in an intimidating manner. Caretakers, veterinarians do not realize that humans show the typical characteristics of a raptor with their eyes in the front of their face, just like dogs, cats, owls and other birds of prey (1). We can also observe displacement behavior of parrots that are inside or upside their cage showing territorial behavior.

Under those circumstances it is important to know how an avian species analysis and combines its perceptual experiences to understand what is happening in the surrounding world (5). There are reasons to hypothesize that parrots utilize extensive information processing, that is at least to some degree, they do not simply react mindlessly to environmental stimuli, but actually process the stimuli and choose to react in a certain ways (6). When displacement behavior is not recognized or not understood and caretakers are responding to displacement behavior in a way that is considered as rewarding, displacement behavior can easily result in abnormal repetitive behavior without the primary trigger that was causing the conflict situation to begin with (7). It can be one of the explanations when we are dealing with complex behavioral problems like feather destructive behavior. It can be assumed that the type of displacement behavior has a genetic component and that the type of displacement may differ between species accordingly. It can also help explain why some species are more prone to feather destructive behavior (8). It can be postulated that the way displacement behavior is expressed also will be influenced by environmental factors and observational learning ability of the parrots. Because of that, it has been argued that hand feeding baby parrots is contraindicated because birds needs to learn by observing normal behavior of their parents, including normal displacement behavior in conflict situations (9).

### **How to Deal with Displacement Behavior**

First of all, it is important to recognize and acknowledge displacement behavior and to consider that the parrot is showing to be in a conflict situation. Any direct response to the bird at that moment can be considered a reward and can create maladaptive behavior. By showing displacement behavior as caretaker, veterinarian we are interrupting the conflict situation.

### **5-Step Behavioral Protocol dealing with and manipulating a parrot**

The most important aspect of dealing with parrots is the attitude of the person or persons caring for the parrot. A basic protocol for veterinarians and caregivers of parrots can be summarized in 5 steps. This protocol can also be used with any parrot showing any behavior problem.

**Step 1:** You must convince the parrot that you have no negative intentions by showing a posture and non-intimidating body language acknowledging the fact that parrots are prey animals. Make the bird observe without being in the middle of the attention. Show that you are comfortable, that you don't have a problem with anything and be happy in your situation. In a way be a positive role model. Show that without any interaction with the parrot; don't even look at the bird. Be sure you will have all the attention of the bird when you are doing your stuff and be silly, playing with a toy, throwing a little ball against the ceiling or whatever. Parrots feel comfortable with people who are comfortable with parrots and with themselves. Your interaction around the parrot will tell him all about you. It means that people often have to act and play a role around the parrot. What we create by doing so is wanted/desired behavior.

**Step 2:** can be considered as rewarding the behavior that has been manipulated by our attitude performing step 1. You have created a reason to tell the parrots that it's the most beautiful creature on this planet and how precious the bird is to you.

**Step 3:** Establish yourself as the best teacher the parrot can wish for. Show respect for his intelligence by sharing, in detail, what there is to see around him, i.e. birds in the trees, toys on the table, colours, shapes, sizes, objects. You can also describe the colour of the tail or beak. Parrots truly enjoy observing and learning. Reward the bird for his intelligence in a non-intimidating way.

**Step 4:** After rewarding the intelligence, allow the bird to touch your pen, toy, paper or towel and praise the bird enthusiastically. Only let them touch items when you tell it is *okay*. When they reach out for anything, just take it away without a word and present it later after telling that now it's okay to touch or even bite into the item. Then they are in general very gentle touching with their tongue. Ask the bird to participate in the learning process by offering him new, small, unthreatening objects. Tell the bird that he/she may touch and feel the objects and allow it to investigate. Praise each positive move. You also can present your hand and tell the bird that he/she may step up and praise the bird for doing so. (This is the opposite of giving a command or making the bird step up to get a treat.)

**Step 5:** Show the parrot that accepting new situations is okay because there are reasons to trust you under the circumstances that you have created. When the parrot shows fear, do not pressure the bird. Pressurements can easily create more fear and insecurity. It is the experience of the author that after point 1 - 4 there is established a situation of mutual respect and mutual trust. When the parrot fears a place or object like the towel, be understanding and start over again with step 1 of the protocol. Soon he will learn that there is no reason for fear. Then tell him how smart and wonderful he/she is. This will help to stimulate the self-esteem all parrots need to develop normal parrot behavior. The outcome is to create a situation in which a parrot can accept novel situations. It can be an examination, taking blood, grooming, wing clipping, gently towel and so on (1, 10).

### **Dealing with Behavior Problems of Parrots**

Dealing with behavior problems is looking for a diagnosis. (9) It is important to consider the circumstances and to understand the reason for the behavior and its consequences. In general unwanted behavior of parrots in captivity can be considered as behavior that started as normal behavior under unnatural circumstances. Dealing with unwanted behavior we have to consider that unwanted behavior will become more and more a problem when the consequence of that behavior is experienced by the parrot as a reward. Any response, whether positive, negative, emotional and even subconscious, to the (unwanted) behavior, including ignoring a behavior can be considered a reward for the (undesired) behavior.

### **Preventing unwanted behavior**

Prevention of unwanted behavior requires understanding the background of unwanted behavior looking at the circumstances, the consequences, the natural behavior and body language of parrots as social, intelligent prey animal. Prevention of unwanted behavior involves ensuring their health and welfare by making sure that they benefit from certified organic pelleted food, sunlight, fresh air and exercise. Prevention of unwanted behavior is encouraged by creating an enriched environment in which the parrot is allowed to express its intelligence and skills; providing toys and providing food in a way that it is stimulating parrots to express normal foraging behavior. Preventing unwanted behavior is enabled with social interactions with other birds, other animals and humans. Taking a bird outside for a walk, a bike ride, a picnic or a family visit will prevent unwanted behavior.

Preventing unwanted behavior also includes understanding that the cage of a bird can be considered by the birds as their nesting site. In nature, birds spend their time during the day and during the night at the same location when they are breeding as part of their reproductive cycle. Being at their nesting site, the bird will be insecure with interlopers and express the need to defend that position and show territorial behavior. To prevent unwanted behavior, the advice is to create a more natural day-night routine in which the bird gets 10-12 hours of sleep in a special small sleeping cage that is located in another room of the house, away from the location the bird spends the daylight hours. The background is that birds in nature do not sleep at night where they spend their daytime hours, foraging or drinking. Preventing unwanted behavior is about understanding that birds prefer to sit in a high position when the birds is insecure. For that reason birds sitting on the shoulder is not encouraged.

### **Redirecting unwanted behavior, displacement behavior**

We have to consider that every response to unwanted behavior can be perceived as a reward. Instead of responding to the behavior of the parrot and instead of ignoring the behavior, the advice is to act in a way that there is no problem with the demonstration of displacement behavior. Part of the displacement is “looking away” and demonstrating behavior showing to have no problem. The result of demonstrating displacement behavior is that insecurity and aggression disappears. Over the years, the author has observed this behavior both as a birdwatcher in nature and as an avian veterinarian dealing with parrots in captivity. In a situation of unwanted behavior, step 1 of the 5-step behavior protocol, can be considered as showing displacement behavior, creating wanted behavior that can be rewarded as step 2. Using this protocol in this order, unwanted behavior is not rewarded. Having the bird watch us when we are not looking at the bird, acknowledging and rewarding their intelligence and rewarding the behavior with touching, feeling and even biting a specific object can all be done within 30 seconds. Using this protocol, unwanted behavior is redirected into wanted behavior and the bird is rewarded for that.

### **Wing Clipping**

In the wild, flying is essential for the survival of parrots, with the typical exception of the Kakapo (*Strigops Habroptilus*). Flying enables parrots to find food, water, and a safe place to sleep. Flying is a way to escape from predators; flying in flocks also offers protection from predators. For parrots in captivity that are kept as companion birds, flying is no longer essential for their survival. Within the Consultation Practice for Birds, clipping can be recommended for safety reasons but is mainly recommended because it makes it possible to provide the parrot more freedom and social interactions both inside the house and during the daily outside activities with the caretaker; the bird has a wider range to become more a part of the family (flock). In the experience of the author, wing clipping done with a parrot-friendly attitude helps prevent behavior problems and prevents parrots from ending up in parrot rescue facilities.

### **Hand-rearing of Baby Parrots**

Basically, the necessity for hand rearing baby parrots in the past was the result of management failures concerning housing, nutrition and care complemented with a lack of knowledge about the natural breeding behavior of parrots. Over the years hand-rearing baby parrots became a commercial activity because females produced more eggs. The Dutch Parrot Foundation, supported by the Clinic for Birds has been successfully campaigning in the Netherlands against the hand-rearing of baby parrots and the trade in unweaned baby parrots. The outcome has been that since July 1th 2014, it is not allowed to separate a baby parrot from the parents until the baby parrot is able to eat completely on its own. The new legislation is putting parrots on the existing list with dogs, cats, rabbits, chimpanzees and other species where separating youngsters from the parents was already regulated for many years. The new regulation is based on the data that has become available during the past 15 years showing the negative consequences of separating baby parrots from their parents. A range of behavioral problems and welfare issues have

been recognized as consequences of separating youngsters from the parents. As described in other animals, separating youngsters before or during the first imprinting phase can lead to irreversible behavior problems.

Data are showing that, as described in other animals, separating youngsters before or during the important first imprinting's phase can lead to irreversible behavioral problems. Some of the behavioral problems can occur after months or even after years especially when the birds become hormonal active. Insecure behavior, phobic behavior, biting behavior, feather picking and self-mutilating can become serious consequences of separating a baby parrot from the parents. (11, 12)

### **Conclusions**

We have to learn from parrots what they already know by looking through the eyes of parrots. Parrots belong to the most charismatic, intelligent and social animals on the planet having a very high life expectancy when we are doing a good job. Consider and acknowledge parrots as prey animals. By adjusting our body language we show respect for parrots instead of showing an intimidating posture, creating insecure and defensive behavior. By showing respect for their social skills and intelligence we show respect for parrots. The natural learning process is by observing the behavior and skills of their parents, other members of the flock and humans in captivity. Never show to have a problem because that will make the bird insecure and create behavior problems. Parrots experience when we have a problem and insecure behavior becomes obvious.

Using the 5 step behavior protocol is creating a relationship based on mutual trust and respect. It is vital to reward wanted behavior. It is vital to reward the intelligence and acknowledge the cognitive abilities in parrots. It is vital not to reward normal behavior. It is vital not to reward unwanted behavior. It is important to recognize displacement behavior and to use displacement behavior when we are in a conflict situation.

Taking care of the health, welfare, well-being, and conservation of parrots in the world is our primary responsibility as avian veterinarians. Parrots are honest and show whether you are doing a good job as children show whether their teacher is doing a good job. In that way parrots have become my best teachers because they correct me when I'm wrong. I'm grateful for the parrots in my life because they force me to be a better avian veterinarian.

### ***If Not Us, Who? If Not Now, When?***

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### **Curriculum Vitae**

*Drs. Jan Hooimeijer DVM CPBC (1953). Birdwatcher. Graduated 1982, Veterinary Faculty University Utrecht. Owner; Clinic for Birds exclusive for birds since 1983 - 2013. Founder owner Consultancy Practice for Birds since December 2013. Certified Parrot Behaviour Consultant (IAABC). Member Association of Avian Veterinarians (AAV) Member Welfare Committee AAV, Member Conservation Committee AAV. Member International Association of Animal Behaviour Consultants (IAABC). Member European Society of Veterinary Clinical Ethology. Founder/Chairman Dutch Parrot Foundation. President/founder Avian Healthcare Company (AHC). Developed the 5-step behaviour protocol for dealing with and handling parrots, preventing and solving behaviour problems. Developed definitions to recognize and understand the differences between normal behavior, desired behavior, undesired behavior and enforced behavior. Founder of the Dutch Parrot walks, stressing the importance of the development of a strong social relationship between parrots and people, considering parrots as part of the family. Presented papers or workshops at 59 (international) conferences concerning avian medicine, behavior and welfare [www.adviespraktijkvoorvogels.nl](http://www.adviespraktijkvoorvogels.nl).*