Early Avian Development:

A Breeder's View of Important Behavioral Stages

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he exact prescription that guarantees parrots' success as human companions is yet unidentified. The large number of parrot species kept as pets and the widely divergent rearing techniques commonly classified as "hand feeding" complicate the formula. The following discussion introduces observations gleaned during readying young parrot chicks for long-term life in the human household.

While not impossible, it is more difficult to change adult birds' behavior than it is to encourage young birds to comply with the rules and behaviors necessary for life as human companions. Therefore, behavioral work starts with young chicks. In order to produce the highest quality handfed birds possible we at the Santa Barbara Bird Farm spend considerable time, energy, talent and resources on the following:

Pre-Natal Conditioning

Careful selection and earnest care of

breeding birds are essential to raising high-caliber domestic parrots. A brief overview of the housing and husbandry techniques used at the Santa Barbara Bird Farm (established in 1973) is given. The complexities of nursery management and the care of young hatchlings are mentioned in a most abbreviated fashion.

Early Socialization

Ways to build trust as a condition of socialization are discussed. Eating as a social behavior, the development of dexterity as an element of weaning, and the importance of exploration are reviewed.

Fledging and Transition

Most young parrots transition to a new home at or around their fledging stage. Stresses commonly seen during fledging and transition are examined. Five recommendations to alleviate stress are suggested.

Avian Adolescence

Precedent to sexual maturity is sexual immaturity, a place in time when many birds become unmanageable due to clients' unfamiliarity with the dynamics of avian adolescence. Helpful hints designed to enhance success for parrots and persons are explored.

Pre-natal Conditioning of Parent Birds

Before we form or espouse opinions, interview clients or sell a young bird, before all other concerns we place those factors contributory to the health and caliber of our breeding birds.

We select the members of our permanent breeding collection carefully. We have a strictly closed flock and have not added any breeding pairs for a number of years. Were a positively irresistible pair to happen along they would be subject to quarantine after testing by an avian veterinarian. We hold our breeding collection in the highest esteem — they are the beloved backbone of our entire enterprise and we value each as an individual, as well as an essential component of our program.

Our breeding birds bring to our flock good genetics. We select for size, color and overall vitality and health. We like big-chested birds of vibrant color with alert expressions and a steady mentality. We appreciate gentle temperament and are fortunate to have even mature male cockatoos who are sweet to their mates.

We provide our breeding birds with an environment that enhances their



health, safety and intelligence. Situated in the foothills of the Santa Ynez mountains, the Santa Barbara Bird Farm sits on a hilltop and is surrounded by groves of eucalyptus and sycamore trees. Harry Linden, my spouse, built the aviaries with open areas that provide interesting views for the birds. Each flight also has shelter from the elements. An automatic watering system fills bowls and provides showers during hot California days. Most of the aviaries are 20 feet long: we enjoy watching the birds fly and we think flight contributes to their overall health and happiness. The aviaries are in a proximity to the house that allows us to observe the birds while ourselves remaining unobserved. Vantage points throughout the house and property furnish views of the birds as they prepare nests, court, mate, eat and play. Thus we study the dynamics of our flock.

Additionally, the outdoor flights encourage our parent birds to respond to the natural world. Rain, sunlight, temperature variations and other animals all provide variety to life in captivity.

Another key element in our breeding birds' lives is their diet. We practice Abundance Feeding with our breeding birds just as we advocate Abundance Weaning with young parrots. We feed a diet of fresh fruits and vegetables, nuts, complex carbohydrates and Scenic™ Bird Food diets. We feed the same diet year-round—daily, amounts in excess of the birds' consumption enhance confidence that their environment easily supports their needs. We have been using Scenic Bird Foods for nine years and are very happy with the product and the manufacturer, Marion Zoological.

Chicks' Early Start

Although we far prefer the parent birds to incubate their eggs and raise

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hatchlings, we are prepared with an incubator out of necessity. Not all our pairs are proficient at incubation. We have a modified Humidare incubator to meet the requirements specific for hatching parrot eggs.

Additionally, we run our own cultures at the Santa Barbara Bird Farm.

We practice meticulous husbandry during baby season: we record weights, spend diligent hours disinfecting utensils and surfaces, and alter all schedules to meet the demands of day-one chicks. The impact of a 15 gram chick on daily life is far greater than the body weight would indicate.

Young parrots grow quickly and I never tire of watching their progress—downy lumps turn into bigger lumps that sprout feathers. Eyes open and awareness develops. Soon, the chicks are curious and we see them peeking out of their boxes. At first, they scurry back to hide, but soon their natural curiosity compels them to take longer looks at the world outside the box. Exploration begins.

Elements of Socialization

Concurrent with the chicks' readiness to look beyond the confines of the nestbox (or cardboard box, as used in our hand rearing environment) is the beginning of the socialization process.

The pervasive theme of all socialization is, in my mind, teaching young birds how to trust. We want them to trust that their surroundings are safe and interesting. We introduce toys and encourage the chicks to play soon after their eyes open. Additionally, we want the birds to trust in a profuse food supply. Moreover, trust regarding people must extend beyond the primary handfeeder to include other humans who are loving and solicitous. A firm foundation of trust allows the chicks to thrive on psychological, mental and physical levels.

Eating as a Social Behavior

The socialization process centers or a trustworthy supply of food and eating as a social behavior. We are intent on supplying a surfeit of food to our chicks: we minimize begging by feeding on demand. We want all chicks to know that the lavish food supply is eagerly administered. Thus, we rear babies without food anxiety.

After culturing them we put chicks in clutches of multiple birds. Triangulation supports and comforts; chicks interact and share attention, space, and food.

We feed Scenic handfeeding formula from a syringe until the chicks show interest in manipulating foods—about six weeks of age for most large hookbills. Then we add a variety of soft foods to the diet and feed these, hot and wet, by hand. A thermometer confirms the desired temperature of 110°F. Even at this very early age, we serve, hot and wet whole wheat toast strips soaked in juice, cooked pasta, baked potato and squash, mango, papaya and banana and more. The eager young enjoy being fed from the hand. feeding technique, Hand Weaning™, teaches even the novice handfeeder a new basic skill and enhances interaction as well as nutrition. And so, with supervision, more people participate in the feeding process of the young birds. Thus many goals of socialization—young birds becoming familiar with a variety of textures, colors, foods, and people—are achieved.

Young birds develop their inherent curiosity when foods are used as toys. We tie bunches of greens (spinach, Italian parsley, chard, bok choy) in the box with rawhide strips. Young birds also munch, manipulate and explore the textures, colors and complexities of whole carrots (we leave tops on), stalks of broccoli, large pieces of melon, corn on the cob, apple or orange. Thus young chicks combine food and toys as integral components of development.

Dexterity: A Key Element as Chicks Learn Eating Skills

Young parrots need to achieve rudimentary coordination before they can eat from a crock. The movement of dipping their heads into an essentially tunnel-shaped cavern is not a skill genetically programmed in young parrots. They learn, from human caretakers, that food comes in a crock and how to eat from it.

Happily, birds master the crock quickly. The next task they master is

substantially more difficult. Using one foot to hold food while the other foot stands securely on a perch takes significant dexterity. Practice precedes mastery, especially when the food must actually be eaten in addition to just being held. Large macaws and cockatoos, for instance, may be seven or eight months old before they develop the physical coordination required to perform such complicated eating tasks. Even when physically capable, young parrots often do not have an attention span that allows them to remain focused long enough to fill their crops via such a challenging activity. Therefore, an essential element of Abundance Weaning involves continued feeding by the human caretaker.

Two Weaning Truths

Two important revelations guide our feeding practices of young birds. While seemingly contradictory, these truths enhance non-traumatic weaning and the development of good life-long eating patterns.

- If they get too hungry, young birds will not eat. Young birds respond to deprivation weaning (leaving young birds alone with food until they eat out of desperation) with anxiety and disorientation rather than with demonstrated increases in food consumption. Making young birds hungry in order to stimulate their independent eating responses simply does not work: birds too hungry cry, whine, hunker down and may dehydrate.
- · Birds eat best when they are not hungry. We always introduce new foods to birds when their crops are full. Young birds manipulate difficultto-eat foods (such as corn on the cob) best when already satiated. When hungry, they are too uneasy to concentrate on such a detail-laden task. A crop full of warm, nutritionally dense foods gives birds the comfort necessary to relax and explore new food choices.

Therefore, we consider weaning process-oriented rather than event-oriented. We are not so concerned with getting the birds weaned as we are with teaching them to eat. We practice many feeding methods—we feed from a syringe, from bowls, from the hand and we keep feeding them until they

confidently hold their own foods and consistently fill their own crops. Encouraging adventurousness with foods is a primary element of good socialization. Even before they leave the box, they eat a variety of foods via a variety of feeding methods. Thus we prepare young parrots to develop their natural curiosity in other areas.

Exploration As An Element of Socialization

Young birds develop curiosity before they can perch. While still in the box, they need both privacy and stimulation. All babies' boxes have a dark corner for sleeping and an open area to encourage visual exploration. They enjoy looking at new places: we change the location of babies' boxes frequently. They spend some time in the kitchen, the family room, laundry room, bathroom and so forth. They return to the nursery for naps. Even then, we rotate the box so that the open area faces out on a variety of views. The chicks understand that many locations—indeed, all locations in this "jungle"—are interesting and safe.

New Faces

It is very important to introduce young parrots to a variety of people. They go through, I postulate, a "flock identification" period: they identify not only clutch mates and parents, but also, through perching and climbing stages, acquaint themselves with other birds in their flock. We use this period to introduce young birds to a variety of people. Beards, glasses, freckles, we seek people with different hair colors,

ages, and physical conformations to interact with babies in boxes. We greatly appreciate our diverse friends as they make themselves available to help teach young parrots that even people with handle-bar mustaches can be loving. We encourage young birds to accept hand-fed food from visitors and friends. Some species, such as the Eclectus, are particularly amenable to accepting food bribes. Often precociously opinionated, even young African Greys will change their preconceived notions about people if those people proffer sesame crackers.

Thus, we lay the foundation for well-socialized baby birds. They know that food is accessible and fed to them by persistent, patient caretakers. They know that their territory is interesting, safe and fun to inhabit. They have a great and happy sense of expectancy regarding life.

Fledging

Fledging refers to that period of time, about four months in duration, of young parrots' lives immediately before, during and after their first flight. Birds in this developmental stage are "fledglings" and we identify several aspects connected with fledging that are salient to behavioral development.

In the wild, we can imagine newly fledged birds out exploring their territory. They must quickly acquire competent physical skills-taking off, flapping, soaring and landing all take considerable practice. We imagine the youngsters being encouraged and monitored by watchful senior flock members. If lost, the young fledglings



must be quickly found and reunited with the flock or they would surely perish.

Our young domestically raised counterparts are also genetically programmed to *FLY*. Surely their every urge is to fly, fly, fly and practice flying. Instead, we clip their wings. Precisely when their wild counterparts are exploring vast tracts of natural habitat, cages confine our domestic chicks. Additionally, many young birds move to new homes during this stage. Suddenly the familiar is gone: all is new—people (flock), territory, perches, food bowls, toys, house. Stress results.

Transition Stress and Fledging Stress

Inherent then, in this developmental stage is considerable stress. New territory, confinement regardless of athletic impulses, and fear of becoming "lost in the woods" or left behind by fellow flock members all contribute to stress. Fledglings must process huge amounts of data regarding the new territory and the artificial domestic environment.

Experience convinces us that, at this time, it is best to continue hand weaning birds with hot, wet foods. Nutritious food from caretakers' hands at least twice a day dispels a lot of stress and reinforces trust. Further, Abundance Weaning will reinforce to the young birds the consistency, dependability and benevolence of their new caretakers. Young birds abundantly weaned in their new homes quickly realize that, while all else may be different and new, at least the food supply is consistent. Of



course, Abundance Weaning also addresses the considerable nutritional needs of growing young fledglings.

Additionally, many fledglings' eating skills actually regress during transition: fledglings that were eating so well at the breeder's or pet store are now whining, crying, begging and soliciting in the new home. Regression results from insecurity during transition and is most efficiently revoked by abundant weaning practices.

Other solutions to stress during fledging and transition are:

1) Bond Deeply. It is imperative that new caretakers and young fledglings bond quickly and deeply. Eye contact is important and highly recommended. Quiet time, hugging and talking are also important. Quality time and sharing foods are encouraged. Playing with young birds on a horizontal surface such as a bed, sofa, kitchen counter or floor can encourage interaction and bonding. Allot extra time to young fledglings: they soon enough get increasingly independent. Even then, the extra time given need not be unrealistically excessive. Young birds must also accustom themselves to time alone spent in the cage eating and playing with toys.

Establish loving routines and practice them.

2) Alleviate Anxiety. Transition stress often manifests itself with lost in the woods-type calls: incessant, loud, inconsolable. Caregivers frequently confuse these as calls for food but lost in the woods calling continues regardless of satiety. Abundance Weaning ensures us that chicks' calls are not food-related. We provide comfort (see 1, above) during this time but also recognize calling as a natural part of the growing up for young birds: eventually, the calling ceases. We lessen its intensity by holding, comforting, or playing with our fledglings.

We do not allow fledglings to practice negative behaviors such as crying, pacing, or nipping. We suggest and reinforce alternate behaviors. Most disagreeable behaviors during this developmental period result from insecurity and anxiety: comfort, diversion and play effectively reduce anxiety. Insecurity lessens as the bond between human and companion deepens.

- 3) Encourage Exercise. Vigorous athletic activity helps reduce the manifestations of stress in young fledglings. Encourage enthusiastic wing flapping, especially for birds recently clipped. Development of athletic stamina provides not only a viable outlet for the young birds' naturally high energy level, it cooperates with a good diet to produce a robust, broadchested and healthy bird.
- 4) Provide Quiet Time, Naps and Adequate Sleep. As important as exercise, adequate quiet time, naps and sleep ensure that activity does not turn in to hyperactivity. Fledglings need twelve hours of sleep per day, plus a nap, and two or three times per day when they can relax in peaceful surroundings. Many cranky young parrots are merely too tired.
- 5) Teach Manners and Lessons. Although immature, fledglings are not too young to learn basic manners. Fledglings who understand "up," "down," "good bird" and "I'll be back in a minute" begin life-long good habits. We alleviate a lot of stress for young parrots when we clearly instruct them. Fledglings delight in comprehension and in pleasing—this is a very fertile time for early training.

Thus, we see fledging as a developmental stage unique in a parrot's life: a brief but important time when caregivers can establish chicks' good habits. During fledging we lay important foundations of trust, athletic abilities, manners, security and eating habits. We capitalize on this time of bonding to develop a deep-seated familiarity with the fledgling. Soon enough the next developmental stage, Avian Adolescence, presents more pointed challenges for parrots and caretakers.

Avian Adolescence

Avian Adolescence first manifests itself during the second, third and/or fourth Spring of our young birds' lives. Adolescent urges pronounce themselves mainly during Spring but may continue throughout all seasons. Adolescence connects with hormonal increases but it is NOT sexual maturity. Avian adolescence is sexual immaturity. As during human adolescence, social needs are more important than

sexual needs. When human caretakers dismiss the behavioral changes in parrots' lives as inevitable results of sexual maturity we dismiss and possibly mis-manage an important developmental stage.

We may accurately describe the avian adolescent's behavior as inconsistent and unpredictable.

Unfortunately, most human caretakers do not have much experience handling adolescent animal companions. Kittens and puppies are often neutered before they reach adolescence. Yet we easily imagine the behavioral difficulties of managing fertile adolescent dogs or cats. Still, we expect our adolescent birds to breeze through this highly unrecognized stage with little or no guidance. Hence, many two-, three- and four-year old birds populate pet stores and wait for a "new home." Especially pronounced in this sad population are birds, now adolescent, who were inadequately nurtured during early socialization and fledging.

Characteristics of Avian Adolescents

Avian adolescents develop and adhere to personal opinions. Previously compliant young birds suddenly refuse to eat broccoli. Worse still, they balk at returning to their cages, destroy furniture and sometimes even bite their beloved caretakers.

Obviously, avian adolescence is confusing for both people and parrots.

Human adults must continue to teach avian adolescents how to become good avian adults. We break adulthood in to bite-sized chunks for our avian companions, and slowly but consistently teach them the skills they need in order to stay successful in the human environment. Regardless of the moods, whims, stages and inconsistencies manifest by avian adolescents, the adult human caretakers remain consistent, loving and in control.

Adolescents challenge the flock leader. Big, bold, expressive and intelligent adolescent parrots test the rules and position of the flock leader. Survival of the flock depends on competent leadership. Adolescents test, in unexpected ways, the competency of the dominant human caretaker. We respond, consistently, with loving but

firm resolve: it is simply too much responsibility for young parrots to be in charge of the human household.

Adolescent parrots teach human adults new lessons in forgiveness.

Unfortunately, each adolescent is different from the other. For example, a cockatoo beautifully sails through adolescence with only occasional screaming. The adolescent Amazon will not duplicate this experience but may instead become grouchy, refuse to talk or develop an unprecedented affection for the family cat. Thus, the experience of piloting one parrot through the turbulence of adolescence does not secure future success. Just as with humans, some parrots will breeze right through adolescence while for others it may be a squall of anxiety, rebellion and insecurity.

Some helpful tips for channeling avian adolescents towards successful adulthood are:

1) Expect changes. We human caretakers need to be aware of our birds' internal calendars (for instance, Spring sometimes starts in November for parrots). We should expect that they will become inconsistent. Forewarned is forearmed.

We talk with many people who are simply shocked when their young parrots exhibit new behaviors or are inconsistent. We do well to prepare ourselves for the inevitable.

Expect challenges.

- 2) Reinforce good eating habits. Adolescents full of nutritionally dense, warm foods are much more compliant than seed-eating, hyper-active counterparts. Adolescents are not as willing to try new foods as are fledglings so it is imperative to encourage adolescents to eat well and often through hand weaning techniques. Also, they like eating in a social setting. A varied and nutritious diet is of primary importance for the adolescent. Underfed adolescents are grouchy. Feeding hot wet foods helps alleviate anxiety, enhances good health and continues to reinforce the human caretaker's consistence.
- **3)** Lovingly reinforce dominance. Adolescents need to know precisely who is in charge and precisely the rules that govern daily life. Although they may have readily comprehended these basic truths during earlier times,

adolescents conveniently "forget" and need repeated reminders.

4) Enthusiastically reinforce exercise. Happy adolescents are active adolescents. New toys challenge adolescents to play in creative ways. We know that adolescents do not want to play with the same toys that amuse fledglings. Vigorous activity on play gyms provides variety and stimulation. We participate by tickling adolescents, by enthusiastic verbal approval, laughing, clapping and by regularly updating the gyms. We invest in our adolescents.

Adolescents spend happy days playing in clean, non-sprayed fruit trees. Of course, wellclipped wings and close supervision are necessary for this activity, but playing outside is an appropriate and stimulating activity for energetic parrots. Outdoor play gyms substitute nicely for trees.

Dancing, hopping and flapping should be part of daily avian activity.

- 5) Teach new lessons. Boredom afflicts most avian adolescents. Challenge the adolescent intellectually as well as physically. New words, new songs and new ways to act positively channel their considerable energy. Deliberately, we continue teaching them. We divert rebellious episodes in to new adventures.
- 6) Repeat known lessons. Adolescence is not the time to allow a bird to forget how to respond to "up," "down," going back in the cage or coming out of the cage smoothly. Reinforce manners. At the very first sign of reluctance to obey basic commands, avian adolescents are put back on a fast track to compliance.
- 7) See new sights, provide an enriched environment. Adolescents



murmur, "Nothing ever happens around here," "There's nothing to do," "I'm bored" and similar complaints. Humans who chose to keep intelligent animals as captive companions are seriously obligated to provide those captives with a stimulating environment. We show our birds the view from a new window: "Look, Joss, a big puffy cloud in the sky." We teach Dickens her colors: "See this orange? It's the color of your crest, Dickens. This lemon is yellow, like Josser's crest. And the sky, it's BLUE like Herman's tail." Their amusement subverts a screaming jag.

- 8) Give up on a perpetually neat and quiet house. We carry armloads of freshly cut fruit tree branches in to our house and offer them as chewing sacrifices to our birds. Each remnant subsequently cleaned up represents a natural and expected activity of parrots. They love their guava branches and will spend happy hours shredding buds, blossoms, fruit, leaves, bark and branches. We recognize and provide for their basic needs such as chewing, making some noise and demanding attention.
- 9) Do not expect adolescents to perform. Lots of people are bitten when they ask adolescents to perform. Those same loving, intimate acts done so sweetly in private will not be successfully duplicated when company visits. Funny, but my human adult spouse is the same: Harry does great imitations but he really hates it (and refuses to perform) if I ask him to do so for someone's amusement.
- 10) Avoid Pain. Know when to back off. Use Time Out. Being bitten is bad for the human / avian relationship. Avoid it by recognizing your birds' hints. When adolescents try to bite, the correct response by a cognizant human is calm yet expeditious transfer of the birds to their cages. Immediately analyze the situation under which the attempt was made and mark that knowledge for future reference. Do not allow adolescents to practice bad behavior.

"Time out" is an essential element in the adolescent experience. We give young birds time out and they "ask" for it by flashing their eyes, fidgeting and rocking back and forth. Adolescents have an increased need for privacy: we caretakers need to expect that adolescent avian companions will be more independent than they were in earlier development.

- 11) Expect pulling away, coming back together. Avian adolescents will sometimes act like understanding adults, sometimes like petulant babies. The compassionate human caretaker responds appropriately to birds' varied needs. We do not expect birds to be robot-like. We recognize and respect their diverse and changing moods.
- 12) Do not underestimate the benefits of a shower. Bathing fulfills cosmetic purposes in keeping our feathered companions clean but bathing also changes the mood of hyperactive adolescents. We provide regularly scheduled showers and spur of the moment showers to change sullen attitudes. Long relaxing showers complete with detailed drying periods refresh adolescents and provide opportunities for interaction.

We encourage young parrots to enjoy warm showers. Birds headed towards biting, screaming, or shredding are, once wet, somehow more compliant. While showering, their attention is absorbed; the results are miraculous. Additionally, showering nicely tires them.

13) Seek professional advice. Our hearts sink when a strange voice on the phone line wants to get rid of or find another home for adolescent birds. The common scenario: Rosco has been biting or screaming or hating the spouse, friend, or children, for some time or has suddenly "turned on" the owner. The bond has deteriorated and the person now is convinced that Rosco would be happier in another situation.

A truly happier and more successful situation is one where, at the first sign of bewildering behavior, the responsible human seeks counsel and advice. We expect to pay competent avian behaviorists for their opinions. We thoughtfully embark upon our own analysis of the results of these conversations and assiduously apply reasonable suggestions. We expect to modify behavior of all players, human and avian. Problems resolve most effectively when addressed quickly.

The End Of Adolescence

The beginning of empathy marks the end of adolescence. There are those who would allege that empathy is a human emotion and that parrots are incapable of expressing such an emotion. Either real empathy or a very good unnamed substitute allows avian adults to be outstanding human companions. Surely after we have shared so many experiences with our avian friends—we have weathered the stress of fledging with them, we have stuck by them during the strife of adolescence—the understanding between players has grown. My birds convince me that they know me very well. I get an approving eye flash from Herman when I am dressed for church. Bucket promptly asks for a pine nut when I open the cupboard and Josserlynn knows it's best to start the morning vell after Mom has had coffee. Dickens no longer acts surprised at my dismay over discovering yet another calculator with chewed off buttons.

Conclusion

All of our pet birds are now adults. Our progress through early socialization and development, through the stresses of fledging and through turbulent adolescence was not always linear: we re-traced many steps, took unplanned detours and followed unmarked if not treacherous trails. Still, we are a flock and we flock together.

The highest quality hand-fed young parrots are packages composed of excellent genetics, meticulous early care, sound early socialization and benevolent help during fledging and transition. Permanent caregivers continue to monitor and respond to the expected stages of parrots' lives including, importantly, avian adolescence. We encourage commitment, sensitivity and effective action plans to enhance success with avian companions. The result—a life-long relationship with some of God's most beautiful and complex creatures—is well worth the effort.

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