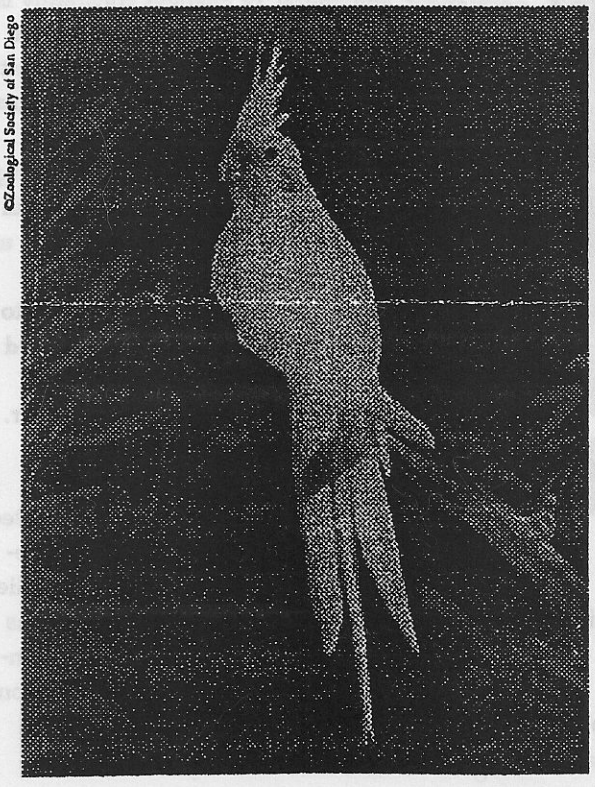
Think Like a Bird: A Practical Guide to Enrichment

By Else Poulsen, Keeper, Calgary Zoo, Alberta, Canada

Early one morning, I was observing the progress of a newly introduced willet *(Catoptrophorus semipalmatus)* in our Aspen Woodlands aviary at the Calgary Zoo. A zoo visitor quietly sat down next to me and asked what we were looking at. I explained the endeavor and invited her to stay to make observations of her own. She was captivated. With a great deal of enthusiasm and concern, she told me that she had just become responsible for a cockatiel *(Nymphicus hollandicus)* and wanted information on how best to care for the animal.



Cockatiel (Nymphicus hollandicus)

We discussed the cockatiel's natural history, its need for enrichment, and naturalistic cage furniture. The visitor commented that her whole perspective on this animal had changed in just half an hour. In her mind, the cockatiel was no longer a pet that had to fit somehow into her world but a "wild" animal, for which she would provide as naturalistic an environment as possible. This approach made the cockatiel exotic, exciting, and challenging.

From this point on, her creative wheels were turning. She would no longer play soft classical music to the animal but would invest in some tapes of bird song. She would take all the plastic perches back to the pet store and go out into her garden to cut perching material. When the willet disappeared into the tall grass around the pond, the visitor and I parted ways. I left her sitting on the bench making drawings on a napkin of her cockatiel's soon-to-be outdoor aviary. It occurred to me that this chance discussion was, on a practical level, the evolution of zoo animal husbandry in a nutshell.

The Calgary Zoo has a long-standing history with environmental enrichment. As one of my colleagues pointed out, enrichment has always been in the keeper contract—we call it care. When I started as a keeper, my first enrichment attempts were primitive—sometimes conceived out of concern for an animal's obvious problem, and sometimes out of a selfish desire to see certain behaviors. But as my experience, knowledge, and ability to network with staff has improved, so has my desire to target specific enclosure design and behavior problems. To plan successful enrichment events, we need to be aware of and organize the way we approach enrichment.

CHOOSING AN ANIMAL OR SPECIES

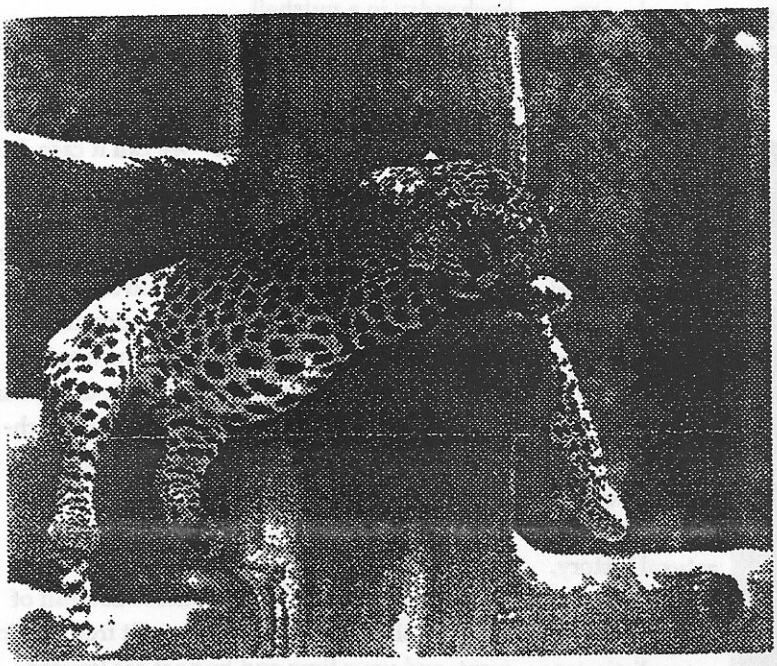
When you are faced with an entire zoo full of animals, all of which would benefit from enrichment, and your time and budget are limited, which animals do you choose? It makes sense to start with the most needy of the collection. Need can be assessed on the basis of any of the following parameters:

1. Animals that are not living in appropriate social groups.
2. Animals with special health care requirements.
3. Hand-raised animals about to be introduced to a group, mate, or multi-species exhibit, which require knowledge of their own dexterity and natural abilities.
4. Animals exhibiting stereotypies.
5. Animals living in enclosures that are not natural habitat exhibits.
6. Animals in appropriate social groups or naturalistic exhibits, where enrichment would create incentive to carry out their natural repertoire of activities.

KNOW YOUR ANIMAL

Often bringing out any activity or behavior in an animal is an improvement, but you can be selective by assessing which behavior would most benefit that animal. Disasters in enrichment can be avoided with some forethought. As a matter of course, most of us research the following:

1. Individual records (behavioral and medical).
2. Natural history of the species.



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Leopard (Panthera pardus)

3. Interspecific and intraspecific agonistic behaviors within an enclosure.
4. Current individual personality (e.g. timid or curious).
5. Current position within a hierarchy.
6. Current food gathering style and possible preferences, since food is often used as an initiator leading to activity.
7. Current dexterity—an animal that has not been enriched may not initially have the same dexterity as its wild counterpart.
8. Personal locomotor style (an old, arthritic bear will move with a style unique to its physical limitation).

STARTING YOUR ENRICHMENT

The most important point I would like to make here is to START SLOWLY. I simply cannot emphasize that point enough. An animal that has not been previously enriched can become extremely stressed by foreign materials, even foods that it has never encountered before. You run the risk of scaring the animal, perplexing it to the point of confusion, or inducing diplacement behavior, aggression, or stereotypic behaviors.

In wanting to bring out a certain behavior, it is useful to assess where the animal would express that behavior in the wild. The animal's natural habitat and niche is composed of three parts: permanent structures like trees, rocks, rivers; ephemeral events or structures, such as photoperiod, temperature, ground substrate, seasons; and constant changes like the location and availability of food and flexibility in the ease of the catch.

The shape of its niche in terms of what is permanent, ephemeral, or changes constantly is species specific. The animal uses its behavioral repertoire differently depending on the current state of the niche. Therefore, you can lock into a certain behavior by mimicking a certain state within the captive environment. Also, studying and mentally dissecting the animal's niche will give you an idea of why the animal may only use an event at certain times.

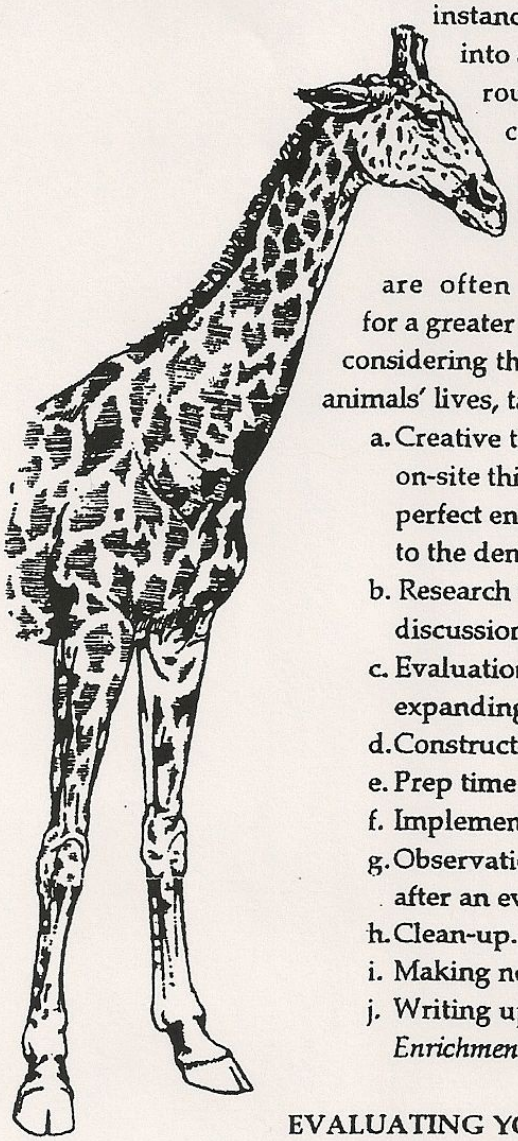
Take time to SLOWLY acclimate animals to changes in routine, objects, cage furniture, and so on. Remember, the animal is suddenly being placed into a state of learning, as is the keeper.

RESTRICTIONS

Some would say that enrichment is only limited by the keeper's creativity. Although this statement may be somewhat exaggerated, I do believe there is some truth to it. The many restrictions that keepers work with actually set the parameters within which their creativity can function. These restrictions—or should we say challenges—include the following:

1. The event must be doable, it must target the right individual or problem, it must not overfeed the animal, and it must not be hazardous.
2. The materials used must consider the budget, must not be able to be used as a weapon or be otherwise injurious, must be non-toxic if eaten, and must be durable enough to withstand the intention of the event.
3. For the keeper, it's important to consider the support of your colleagues, the support

and understanding of the public, and the safety of keepers and other staff (for instance, if moving large carnivores into areas out of their normal routine, communicate this to co-workers).



4. Time is perhaps the biggest challenge. Due to economic restraints, keepers are often trying to provide better care for a greater number of animals. When considering the time it takes to enrich our animals' lives, take into account the following:

a. Creative time—this not only includes on-site thinking but also inventing that perfect enrichment gadget as you drive to the dentist.
b. Research time—reading literature and discussion.
c. Evaluation of the idea—modifying, expanding, or disregarding it.
d. Construction time.
e. Prep time for the animals.
f. Implementation.
g. Observation time—before, during, and after an event.
h. Clean-up.
i. Making notes or report writing.
j. Writing up your article for *The Shape of Enrichment*.

EVALUATING YOUR EVENT

On an elemental level, anything that causes an animal to think, change, or choose is enrichment, and enrichment is success. Often when the event did not turn out as you had planned, it helps to think of it as a success on a larger scale, thus giving you incentive to continue with your quest to help that animal. This, of course, does not include events that lead to violence, injury, or undue stress.

PRACTICAL CONSIDERATIONS

Randomness: If you think it's difficult to change an animal's habits, try changing your own! I was attempting to perform random scatter feedings for our polar bears. It wasn't long before I discovered that my supposed "random" feedings were taking place at exactly the same time every day. Obviously, I needed some guidance to break my own habits. I took small slips of paper and wrote down times of day with 15-minute intervals. I placed them in a jar, and every morning I would pick three to four random times and worked my routine around those feedings.

Staying one step ahead of the game: Once the enrichment bug bites, you realize that it is not enough to enrich periodically. Enrichment must become a way of life for the keeper, and the challenge is to be continuously thinking of new ideas. Once enrichment is started with an animal, that individual usually begins to anticipate change. There must be some continuity in the planning of enrichment.

KEEPER REWARDS

The most immediate and obvious reward for the keeper is watching an animal take advantage of your event. There is an element of unpredictability in the animal's reactions that is often surprising and amusing. If you interest other staff members of all departments by inviting them to come and observe with you, you may be rewarded by renewed interest in an animal that you may have felt has been forgotten. Supervisors may even find the money for those enclosure renovations you've been suggesting.

You are making a direct difference, often quantifiable, to the animals' lives. This will generate enthusiasm with zoo visitors, and they, in turn, will reward the zoo by increasing their attendence. As you progress, one event tends to generate ideas for the next, thus keeping the creative flow moving. And research possibilities leap out at you, demanding definition. Environmental enrichment is a progressive affair. There are no failures, only learning experiences. ✧

Rolling Pipe Toy

For marine mammals, use a four-foot section of eight-inch PVC pipe, fill with pea gravel, and glue a PVC cap on each end of the pipe. Animals can roll the pipe on the floor of their pool. Pea gravel will make some noise in the pipe as the animals roll it around.

—Ed Krajniak, Brookfield Zoo, Illinois

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