

# Kids' KOrner

## Research Shows Parrots Think Before They Talk

TUCSON, Ariz. — Thousands of parrots flock together in the Amazon like a yelling, squawking jungle stock exchange. The messages in their noisy chatter, a trademark sound of rain forests the world over, have remained a mystery.

But in a University of Arizona laboratory in the Sonoran Desert, a talkative African gray parrot named Alex may be spilling the secrets of his wild cousins in Africa, Asia and South America.

The surprise is the apparent intelligence behind Alex's speech, how he processes general information, say scientists and conservationists familiar with the growing data from ethologist Irene Pepperberg's 15 years of research.

"What shape?" she asks, holding up a square piece of yellow paper.

Reaching for it with one greedy talon while clamped with the other to his perch on the back of a folding metal chair, Alex answers: "Four-corner."

From a tray of several toys, he succeeds in picking out the red one.

"Wool," he squawks, indicating the fuzzy red wool ball. Alex can correctly identify the color, shape, and material of hundreds of small toys.

"Saying something is red or yellow is an absolute judgment, but to say something is bigger or smaller, that's relative," Pepperberg explains. "And for a long time, people thought animals other than chimpanzees couldn't do that type of task. Well, we've been able to show a bird can."

With his nearly 100-word vocabulary, Alex has a wide repertoire of tasks. By answering categorical questions, he tends to prove he is not just mimicking — or parroting — words.

Pepperberg's research is the

first to show that parrot vocalizations can actually be meaningful instead of just mimicry, Donald R. Griffin, an animal-behavior authority and professor emeritus at Rockefeller University in New York City, tells National Geographic.

Such a discovery could do for threatened wild birds what it has done for chimpanzees, dolphins and whales, suggests Charles Munn, a research zoologist with Wildlife Conservation International, a division of the New York Zoological Society.

The intelligence of those species has helped make them profitable fund-raising mascots for the environmental movement. It has won them legal protection from overhunting, habitat destruction and the pet trade.

Pepperberg says a prime motive in her research "is to educate the public that these birds are sentient beings."

But are animals with intelligence more important than those without it?

"No," she says. "But once you interest people in an animal to which they can relate, they will begin to realize that destroying their habitat will kill them off. It's not just the parrot that will be saved or when the rain forests are saved or when the clear-cutting ends in Africa. All the species involved will be saved, and that's really what's important."

But more knowledge about parrot intelligence can also make the birds more desirable as pets. The Wild Bird Conservation Act of 1992, signed by President Bush in October, imposed an immediate moratorium on the import of eight species of birds thought to be especially at risk from the pet trade.

Conservation groups estimate that parrots account for roughly half of the 500,000 birds imported legally and illegally into the United States each year. African gray parrots are not included in the moratorium, because they are still widely found in Africa. They are classified as threatened, not endangered.



Correctly calling out the color and number of these keys is easy for this African gray parrot named Alex. Ethologist Irene Pepperberg of the University of Arizona says she has taught the bird to identify the color, shape, and material of hundreds of small toys and to distinguish between bigger and smaller sizes.

Pepperberg explains that her bird-training technique is based on "what these birds probably do in the wild." She creates a social atmosphere in which parrots learn by watching and hearing their peers and parents.

Traditional techniques basically rely on repetition of words until the bird says the word and is rewarded with a food item that doesn't relate to the word's meaning. But Pepperberg teaches Alex by letting him watch her "teach" a person who serves as a model.

Pepperberg holds an object and repeats its name until the model says it correctly. She then rewards the model with the object, not food.

Alex learns as he might from his parents in the wild. Pepperberg now uses Alex as the model for some of the training of two younger birds.

Recognition of Pepperberg's

work has taken time, says Griffin, because of skepticism among scientists long trained in the strict behaviorist tradition that animals have no real thoughts or consciousness.

Pepperberg prefers to let others interpret what she has proved about Alex. Griffin, who has written textbooks on animal thought, believes her work does suggest what goes on in an animal's head.

"Here is a case where an animal's communication tells us he is really thinking . . . and it's rather unlikely he's the only one," Griffin says. "It's a sort of opening up of the whole recognition of mental versatility of non-human animals. Insofar as her research is correct, it changes the whole way we think about parrots and other animals."

Pepperberg hopes to reinforce her findings with two younger African grays — Kyaaro and Alo — that she has been training for a year in Tucson.

But other scientists are already incorporating her findings into their own research. Pepperberg's work has helped confirm Munn's

belief that these "incredibly noisy" animals really are communicating ideas.

When thousands of parrots come together in the wild "like a stock exchange with a lot of shouting and yelling, they're probably trying to trade off information about the resources they use," he says.

Munn's own bird-conservation research in the Peruvian Amazon has taught him that "different shrieks mean different things" to parrots. For example, he says he can identify vocalizations used by the colorful Amazon parrot to signal such things as a U-turn in flight or a brief flight from one tree to another.

But Alex's revelations have convinced Munn that parrots in the wild could be communicating complex information such as seasonal variations of fruit and the navigational problems of finding that fruit in dense forest.

With a life expectancy of more than 50 years, Alex may yet reveal much more — and redefine what it means to be bird-brained.



A talkative African gray parrot named Alex may be spilling secrets in a University of Arizona laboratory about how his cousins in rain forests throughout the world process general information. The apparent intelligence behind Alex's speech indicates that parrot vocalizations may be more than just mimicry.

## Laughter Is Healing

When was the last time you had a good laugh?

Unfortunately, most of us have become far too serious, losing touch with the importance of fun.

Researchers say you will stay healthier if you laugh 15 to 20 times a day for at least 20 seconds each time. Humor and laughter are positive, healthy ways to deal with stress and change. But many people have difficulty taking time to laugh or finding something to laugh about.

People are not born with a sense of humor, but they can develop it. Here are some suggestions to help you add more laughter to your life:

\* Recognize the value of humor. Don't worry or analyze why people laugh — just

participate.

\* Adopt a playful attitude. Be open to silly and outrageous things.

\* Think funny. See the funny side of every situation.

\* Laugh at yourself. Acknowledge and accept that you are not perfect.

\* Laugh with others for what they do rather than for what they are.

\* Surround yourself with happy people.

\* Take yourself — but not your

responsibilities — lightly.

\* Clip some stories, articles or cartoons that make you laugh and keep them in your own "humor kit." Use the kit frequently on yourself and others.

Humor can be a major tool for gaining insight. It can help you laugh at some of your own quirks as well as laugh with others at their fun-worthy failings.

Laughing may not cure all your ills, but it can make the bad times easier to take.

