

Chicago Natural History Museum

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Members are requested to inform the Museum promptly of changes of address.

They Err Like Human Beings . . .

MALADAPTATION IN BIRDS

BY AUSTIN L. RAND
CURATOR OF BIRDS

THROUGH selection, birds have become adapted to their environment. In most cases this is successful adaptation. Occasionally, however, we come across instances in which the adaptations do not work out. Such cases, where the actions of the bird are not of benefit to it or are even detrimental, come as surprises.

The introduction of the Tartarian honeysuckle (*Lonicera tatarica*) into the United States from Asia and its planting as an ornamental shrub provides each fall a display of red juicy fruit. This fruit contains saponin, a substance that has the effect of an anaesthetic and muscle poison and may paralyze the greater nerve centers (in sufficiently large doses saponin causes death by cardiac paralysis). A condition of intoxication has been recorded for robins feeding extensively on these honeysuckle berries: "... this drunkenness has been seen in every shade of severity, from mild unsteadiness to a degree of inco-ordination sufficient to cause the birds to fall to the ground. It seems to make some of the birds utterly fearless and perhaps a bit belligerent, for they become quite unafraid of passers-by and interested spectators. A few dead robins have been found about these honeysuckle bushes—presumably poisoned by the berry diet."

The California woodpecker ordinarily differs from many birds because it does not lead a hand-to-mouth existence but stores food. These woodpeckers feed extensively on acorns, and one way they store them is by drilling holes in the bark of a tree and into each hole fitting an acorn. The whole trunk of a tree thus may be pitted with stored acorns. When the acorn crop fails and the nuts are scarce the woodpecker goes through the same storage activities but, being unable to find sufficient acorns, it stores pebbles instead. These pebbles are of course quite useless to the woodpecker, and this is an interesting example of an instinct "gone wrong."

Sometimes these woodpeckers have another method of storing their acorns. This is by dropping them into cavities in tree trunks, but "when stored in such cavities there seems to be no way by which the birds can reach them." Here again we have a blind impulse to store but in such a way that the bird gains little or nothing by the act.

The raven is ordinarily and quite correctly considered one of the most intelligent of birds, but a raven in captivity that was fed on small fish attempted to store these fish by pushing them through a knothole in the back of its cage. The fish fell about 15 inches below the knothole where the raven could not possibly reach them, and after each time the raven peered through the knothole, though it could not see the fish. Here again we have the instinctive storing act carried out in such a way that it produced no benefit to the bird.

The late George Latimer Bates, noted ornithologist, studying the birds of West

Africa found a most surprising thing in connection with one of the honey-guides. As a group these birds are noted for the habit of attracting the attention of human beings and leading them to bee trees, presumably so that they will break down the bee tree for the honey, and the birds can feed on the scraps left over. Bates found that the West African species is parasitic on other birds in its nesting habits and its young have been found in the nesting hole of a little barbet. This barbet was a much smaller bird than the honey-guide and the entrance to the nest hole was so small that Bates doubts that the honey-guide would have been able to get in to lay its egg. He suggests that the egg may have been laid elsewhere and deposited in the nest by the parent's bill. It is difficult to understand how the young honey-guide would be able to get out, for when fully fledged it would have been far too large to squeeze through the entrance that admitted the tiny body of its foster parents, the barbets. This, too, looks like a case of maladaptation.

The life and customs of the peoples of Fiji, Samoa, Tonga, Cook Islands, Hawaii, New Zealand, and Society and Marquesas islands in Polynesia and of the peoples of the Gilbert, Marshall, and Caroline groups and outlying islands in Micronesia are illustrated by exhibits in Hall F.

THIS MONTH'S COVER

Many Chicagoans vacationing in the West this summer will see scenes like that on our cover. This magnificent specimen of giant sequoia was photographed in Sequoia National Park, California, by Prof. E. J. Kraus, of the University of Chicago. These trees, 1,200 to 2,000 years in age, are the oldest and most massive of all living things. They attain heights from 80 to 225 feet before the first limb and often grow to 330 feet. Frequently they reach 12 to 17 feet in diameter.

An exhibit in Stanley Field Hall, to be ready in July, will show fossil members of *Metasequoia*, 50-million-year-old relatives of our famous big trees, and herbarium specimens and a wood sample of the only living member of *Metasequoia* recently discovered in remote parts of China—the nearly extinct dawn redwood. An article on this "living fossil," by Dr. Theodor Just, Chief Curator of Botany, will be found on page 3.



Cartoon by Margaret G. Bradbury

FEATHERED DELINQUENT

Although Miss Bradbury has here availed herself of artist's license, Dr. Rand cites in the accompanying article instances in which birds have been known actually to get "drunk" on the juice of certain berries.



Rand, Austin Loomer. 1949. "Maladaptation in Birds." *Bulletin* 20(7), 2-2.

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