**Morning display of the California Condor.**—For many years there have been examples of the California Condor (*Gymnogyps californianus*) in the collection of The National Zoological Park. At present one specimen is exhibited, a large female. A behaviorism of this bird in captivity is interesting. At sunrise, this great vulture greets the sun by facing the east and spreads its wings in a horizontal position—an expanse of about eight feet. In this posture she remains for as much as an hour. The head of the bird meanwhile undergoes a peculiar transformation. Normally, the soft parts of the head are a pale yellow in color, and the neck is gray with the exception of the posterior portion which is tinged with red. During the 'sun-worship stance,' these soft parts of the head turn from pale yellow to an intense, bright yellow, and the entire neck becomes a dark crimson. At this period the bird appears to be in a state of emotional unrest. During the winter months and the period of molt the Condor does not exhibit the changes mentioned.—MALCOLM DAVIS, *National Zoological Park, Washington, D. C.*

**Bald Eagle feeding on the highway.**—On June 12, 1945, Mrs. Hawkins and I, with a friend, were driving through the Smokies to our summer home at Lake Junaluska, North Carolina. We had crossed over New-found Gap, and as we were nearing Smokemont, N. C., we were much surprised to see an eagle feeding upon some small animal that had been killed by a passing car. Thinking that it might circle and return to its feeding, we drew up about fifty to one hundred yards beyond the spot. Sure enough, it circled, and again alighted by the roadside. The three of us were out of the car and had our glasses on it. We noted the bare tarsi, and so concluded that it was an immature Bald Eagle. It did not resume feeding but strutted about uneasily for a minute or two, and then took flight into the near-by woods.—ROBERT M. HAWKINS, *Lake Junaluska, North Carolina.*

**Observations on two Golden Eagles.**—The Golden Eagle is a regular winter visitor in central Tennessee, especially along the escarpment known as the "Highland Rim" that forms the eastern border of the "Nashville Basin." During the first week in February, 1945, a farmer presented Mr. Henry O. Todd, Jr., of Murfreesboro, Tenn., with a Golden Eagle which had been captured after it had killed a fox that had been caught in a steel trap. Two other eagles were said to have been killed in the same area (Pilot Knob) earlier in the winter, and four more in another area (Auburntown) some twenty miles away. On Feb. 18, Mr. Todd, Mr. Albert Ganier and the writer visited Pilot Knob, where we watched an adult Golden Eagle circling over an adjacent quarry. A week later another eagle was caught in the same place and presented to Mr. Todd, who stated that the farmers aver that the eagles appear in winter ("lambing time"), that more were seen "last year," and that "brown eagles" and "black eagles" were to be distinguished. The latter may refer to immature Bald Eagles. Inasmuch as the two eagles examined were as unlike as would seem possible within the limits of variation based on age and sex, it seems worth-while to append a brief description of each.

The first eagle weighed 14 lbs., with the wing of 25½ inches long and the tail 14 inches. The plumage was dark brown, with a distinct purple gloss. The flight feathers were much darker than the contour feathers, while the greater wing-coverts were intermediate. The longer, more posterior scapulars were also very dark, and it is possible that these are the 'girdle' counterpart of the flight feathers of the free part of the wing. The basal part of the inner primaries was clear white, as was the basal two-thirds of the tail. The terminal brown band on

the tail was four inches wide on the middle feathers, and six inches wide more laterally. The nape and posterior half of the crown were tawny, the eyes brown, and the feet, cere and gape deep yellow. The feathers were relatively fresh and seemed to be of equal age, indicating an unmolted bird. While the above plumage would seem to be that of a first-year immature, according to most descriptions, contrary accounts are to be found in Roberts's 'Birds of Minnesota' and in Coues's 'Key to North American Birds.'

The second eagle weighed 8 lbs., with the wing 23½ inches and tail 12¼ inches. There was no trace of white on tail or wings, which were strongly barred with gray and brown in 'Goshawk' style, but there was a clear white 'epaulette' in the upper part of each scapular tract, which showed clearly only when viewed from in front as the eagle lowered its head to feed, at which a white spot appeared on each shoulder. The general plumage was brown, but presented an intermixture of new and old feathers; some were fresh with purple gloss, some more worn and without the gloss, and others so faded and worn as to be nearly white, with the free part of the feathers completely frayed. The nape and posterior part of the crown were tawny, the eyes reddish (somewhat similar to *Accipiter*), and the feet, cere, and gape pale yellow.

In a very limited search of some easily available literature, the writer was unable to find any account that would completely explain the plumage described above. Forbush, in 'Birds of Massachusetts,' and Bent, in his 'Life Histories,' state that the Golden Eagle has a complete annual molt. Witherby (*et al.*) in the 'Handbook of British Birds' mentions a "complete molt" but adds that it may be very gradual. However, in a further statement, this last work adds that the molt may begin in April and end "occasionally" in June, but "sometimes" not until October. It is obvious that an eagle with an April–June molt would be unable to fly during a great part of that period. The age differences in feathers (estimate based upon 'wear') in the description furnished above are not to be explained in terms of a complete annual molt.

On the other hand, a posthumous paper by Sewertzow (Moscow, 1885–1888) entitled 'Étude sur les variations d'age des Aquiline's palearctiques et leur valeur taxonomique' contains what appear to be pertinent descriptions. Sewertzow states that the molt begins when the eagle is about 15 months old, is incomplete, ceasing during the following winter, and is only complete more than a year later when the bird is three years old, at which time it begins without pause its second molt, complete at five years. The third molt is complete at seven years (when the eagle may breed), and the fourth at nine years of age (*contra* Witherby, who states that the bird completes its fourth molt at about four and one-half years and then appears to become adult). According to Sewertzow, at any one time the plumage may consist of fresh feathers (with purple reflections), older feathers (without reflections), and very old, faded feathers; these represent feathers "new," a year old, and two years old, respectively. It is further noted that a bird that has nested the same season shows many more old feathers, and that non-breeding birds have many more new ones. It is clear that the descriptions of Sewertzow may be applied satisfactorily to the description of the second eagle given above, and this calls into question the accuracy the statements found in more recent accounts.

In regard to the white 'epaulettes,' easily accessible American references with which the writer is familiar fail to mention these characters, and here again Sewertzow has something to say. Pointing out that they were figured by Naumann ('Naturgeschichte der Vögel Deutschlands,' 13: pl. 339), Sewertzow states that they

are of very rare occurrence, that he had never seen complete examples, and that it was possible that they occurred in Scandinavia and Finland. He states that they are not age nor sex characters. The subject would seem to need further clarification.

Of further interest is the pattern of new and old feathers among the remiges. Assuming that this pattern (nearly identical in each wing) represents the order of feather replacement in the molt, it may be pointed out that the pattern was such as to find no ready explanation in terms of the simple regular replacement order in *Accipiter gentilis* or the slightly more complex situation in *Falco rusticolus* and *peregrinus* with which the writer has personal acquaintance. A regular molt proceeding from a molt center does not seem adequate to explain the fact that primaries numbers 2, 5, 9, and 10 were new, numbers 1, 3, 4, and 6 somewhat intermediate, and 7 and 8 definitely older. The primary coverts (studied from Kodachrome transparencies) were approximately similar, with a few exceptions. In the secondaries, numbers 1, 2, 4, 5, and 8 were new and 3, 6, and 7 old, while the inner secondaries varied somewhat on each side. It is hoped that the future molts of the immature eagle will furnish information on both plumage and molt sequences.

In conclusion, it may be pointed out that whereas the Golden Eagle may still be a resident in the southern Appalachians, the winter eagles are in all probability mostly migrants from an unknown northern breeding area. In the fall of 1944, sixteen Golden Eagles were observed to pass Hawk Mountain (Pennsylvania) in one day, and Mr. Richard Pough saw seven flying along a ridge in western New Jersey in late October, 1944. It is not unreasonable to suppose that some of these may later be found in central Tennessee. The Highland Rim country is very steep, consisting of 'badlands' largely given over to pastureland (sheep, some cattle, and pigs), somewhat grown over with sparse cedar and some hardwoods. As a potential food supply, rabbits are very numerous (15 counted in a half-hour walk), and carrion (dead calves, sheep) is to be found. No doubt the steep hills furnish excellent obstructional air-currents for soaring flight, as well as some 'cover' for these large and conspicuous birds.—WALTER R. SPOFFORD, *Nashville, Tennessee.*

**Purple Gallinule robs nest of Green Heron.**—There is a pond on my property in Leon Co., Florida, where Eastern Green Herons (*Butorides v. virescens*) nest in button-bushes, over the water. A few pairs of Purple Gallinules (*Porphyrula martinica*) nest in the grass. On May 6, 1945, a friend and I were paddling quietly about in a boat when a Purple Gallinule flew towards a button-bush in which I knew there was a Little Green Heron's nest containing four eggs. This nest was placed unusually low—about 15 inches above the water on bent-over branches, and though well sheltered from above was exposed to view from either side.

When about 30 feet away, we saw that a fight, accompanied by wing blows, was taking place at the nest between the gallinule and the heron. It was over by the time we were within 20 feet. The heron was perched on a branch a few feet away while the gallinule stood on the nest, pecking at an egg. It presently hopped down onto a spatterdock leaf with the egg, cracked partly across the middle, hung on its lower mandible. It dropped the egg and proceeded to eat, or drink, the contents, which dripped from its bill when it raised its head to swallow.

Made uneasy by our nearness, the gallinule presently hooked up the egg again and walked off across the spatterdock leaves, stopping now and then to put the egg down and take another drink. It was like seeing a dainty lady turn cannibal.