migration route of Double-crested Cormorants shown in the map in an article by Baird and Nisbet (1959. *Mass. Audubon*, May–June), show that a southwest direction is the primary one for cormorants coming from Maine to cross Massachusetts into Narragansett Bay and Long Island Sound.

On both days on which these diurnal migrations of jays and cormorants were seen, the weather was clear and there was a light wind, southwest and west on 22 September and northwest on 9 October. On both days there was little other evidence of migration, and both days followed several days unsuitable for migration. These two observations point to the compromise between the primary direction and the effect of topography, in the migration of New England birds. These observations show the influence of these deflecting lines, which have led most American students of migration since William Brewster to consider use of topographic features as the primary orientation mechanism in bird migration. Many observations are needed to clarify how diurnal migrants make their way along the New England coast, but at present it is reasonable to accept these observations as further evidence that they use sun orientation together with clues from topography to maintain their primary directions and avoid local dangers.—WILLIAM H. DRURY, JR., *Drumlin Farm, South Lincoln, Massachusetts. Contribution Number HS-30 from the Hatheway School of Conservation, 25 April 1960.*

Phoebe builds over dead young.—While banding nestlings in the summer of 1959 I observed an unusual nesting of the Eastern Phoebe (*Sayornis phoebe*) about five miles from State College, Pennsylvania. The nest was located just above eye level on a ledge of a rock cliff. When first discovered on 29 May two well-feathered young could be seen—one a Brown-headed Cowbird (*Molothrus ater*) and the other a phoebe. The young were not disturbed. The nest was next visited on 1 June at which time it contained a few loose bits of moss on top of two dead young. Since these two dead young were at an earlier stage of development than those previously observed they must have been hidden beneath the cowbird and phoebe at the time of the earlier visit on 29 May. The adult phoebes were protesting quite near so I decided to check again at a later date. By 8 June about an inch of fresh moss and lining material had been deposited on top of the dead young in the nest, and four eggs had been laid. On 18 June only three eggs could be seen, and on 30 June the nest was empty. The adult phoebes were still in the area on 30 June but showed no interest when I approached the nest. The nest was later collected and examination verified the presence of the two dead young beneath the added layer of nest material.—DOROTHY L. BORDNER, *926 West Beaver Avenue, State College, Pennsylvania, 12 July 1960.*

A prehistoric record of the Trumpeter Swan from central Pennsylvania.—Sections of the Sheep Rock Site, an Indian rockshelter located approximately 22 miles south of Huntingdon, Huntingdon County, Pennsylvania, were excavated during the summers of 1958 and 1959. Preliminary test pits dug in 1958 revealed quantities of dry organic material such as cordage, fabric, and wood as well as the usual amounts of flint projectile points and chips, bone remains, and other Indian refuse typical of such dry rockshelter sites. The Sheep Rock Site is dated at approximately 1500 A.D. Under the sponsorship of the Pennsylvania Historical and Museum Commission, Harrisburg, more detailed excavations were undertaken for an eight-week period in 1959 and they were directed by John Witthoft and W. Fred Kinsey III, Curator of Anthropology, Pennsylvania State Museum.

The presence of corn and beans in the midden deposits suggests that agriculture was practiced by some of the later groups occupying this site. However, the quantity of vertebrate remains throughout all excavated levels points to the significance of the local fauna

as probably the principal source of food for these people. In addition to the large number of bone fragments, which have not yet been completely analyzed, numerous bone artifacts were also encountered. Although several are of particular archaeological interest, the worked ulna and humerus sections of a swan are the most significant from a zoological point of view.

The proximal half of a left ulna and a right humerus of the Trumpeter Swan (*Olor buccinator*) were found in association with materials from these dry middens. Both wing bones were cut off almost exactly at the mid-point of the shaft, and the cut ends then had been beveled inwardly. Possibly these tools (?) were used as some type of gouge or perhaps they served as handles; their polished appearance suggests considerable handling. The ulna was sent to me first by Mr. John E. Guilday, Assistant Curator of Comparative Anatomy, Carnegie Museum, Pittsburgh, and was tentatively identified as *O. buccinator*. Since the locality is considerably out of this swan's known range, it was sent to Dr. Alexander Wetmore, Research Associate, Smithsonian Institution, Washington, who stated (letter of 18/11/59) that "the swan ulna is a good specimen of the Trumpeter Swan of large size." In scraping (or cleaning?) the ulna, the outer edge of the external and internal cotyla, the tip of the olecranon, and a small area immediately posterior to the olecranon on the anconal surface, were removed. The edge of the deltoid crest, internal tuberosity, pneumatic fossa, and bicipital crest of the humerus were also scraped and/or broken away.

The diameter (breadth) of the ulna shaft at the point where it was cut is slightly larger (14 mm. vs. 13 mm.) than the largest adult Trumpeter Swan ulna in the Illinois State Museum collection. In contrast, the breadth of the humerus measured at this point is approximately 1 mm. less (17 mm. vs. 18 mm.) than the humerus of this same swan, thus suggesting the probability that two individuals are represented. Extremely close similarities of anatomical features between the Trumpeter Swan and the Whistling Swan (*Olor columbianus*) often make specific determinations questionable; although this cut humerus is slightly greater in proportion to the largest adult Whistling Swan specimen in the Illinois State Museum collection, it may possibly represent a very large individual of *O. columbianus*.

Apparently there are no authenticated records of the Trumpeter Swan for Pennsylvania, and Indiana is given as the eastern edge of its former breeding range in the fifth (1957) edition of the A.O.U. Check-list of North American Birds (p. 58). Todd (1940. Birds of Western Pennsylvania, p. 67) states that "The Trumpeter Swan (*Cygnus buccinator*) is another species which may have occurred formerly but for which the evidence of occurrence is likewise unsatisfactory." There is one possible record as suggested by Sutton (1928. *Annals Carnegie Mus.*, 18(1):19–239): "Mr. William Foust of Conneaut Lake is said by Mr. Welshons to have taken a Trumpeter Swan at the Lake in November, 1909." Remains of this swan have been reported from Ohio (R. M. Goslin, 1955. *Ohio Jour. Sci.*, 55(6):358–362) and have been found commonly at certain sites in Illinois (P. W. Parmalee, 1958. *Auk*, 75(2):169–176). It is reasonable to assume, therefore, that when this species inhabited eastern North America, occasional migrating or wandering flocks may have occurred in Pennsylvania. This one record (ulna and possibly the humerus) points to the prehistoric occurrence of the Trumpeter Swan in central Pennsylvania; with the excavation of addition faunal materials from various sites and the probable recovery of other swan material, the former occurrence of this species may be definitely established for the state.—Paul W. Parmalee, *Illinois State Museum, Springfield, Illinois, 18 December 1959.*