

winds, clear vs overcast skies, and 65 vs 31 birds recorded per hour in the Manomet radar log.

The lack of migrants during the morning hours on all days indicates that the early morning eastward movements seen at Manomet on the 25th and 27th did not cross Cape Cod Bay.

We thank B. Ackerman for his assistance in scoring the radar films and A. D. Colburn, captain of the Asterias, for assistance during the observations.—TIMOTHY C. WILLIAMS AND JANET M. WILLIAMS, *Swarthmore College, Swarthmore, PA 19081*. Received 15 June 1980, accepted 20 Feb. 1981.

Uptilted Bills in Thrushes.—In a previous study of head lifting coincident with vocalizing by certain passerines (Clark 1976) I noted that silent American Robins (*Turdus migratorius*) often perch with the bill tilted slightly above the horizontal. Extending this finding during many additional hours afield in the United States and throughout a year in England, I have found that certain other thrushes also commonly hold the bill above the horizontal while pausing silently on the ground or on branches, in contrast to other birds that hold the bill horizontally or downwardly tilted in similar situations.

On numerous occasions I have seen uptilted bills, usually less than 30° above the horizontal, for silent and nondisplaying individuals during both terrestrial and arboreal pauses for the European Blackbird (*T. merula*), Redwing (*T. iliacus*), Song Thrush (*T. philomelos*), Mistle Thrush (*T. viscivorus*), and American Robin. When foraging on short grass such as lawns, these 5 species commonly make a series of moves over the ground punctuated by pauses, often less than 3 s in duration, with the angle of uptilt highest in these pauses. Uptilted bills do not occur in every pause; the head can be held at varied angles, sometimes lowered or tilted to the side. Nevertheless one or more pauses with an uptilted bill is ordinarily seen for any of these species within a minute of watching from a suitable distance and direction. In contrast, I have rarely or never detected an uptilted bill for other avian species during numerous pauses over many minutes (e.g., Mallard (*Anas platyrhynchos*), Wood Pigeon (*Columba palumbus*), Mourning Dove (*Zenaida macroura*), Tufted Titmouse (*Parus bicolor*), European Goldfinch (*Carduelis carduelis*), House Finch (*Carpodacus mexicanus*), Blue Jay (*Cyanocitta cristata*), and Magpie (*Pica pica*)).

Species with frequently uptilted bills in pauses differ so conspicuously from those lacking this trait that even small samples appear sufficient to reveal those with a frequent uptilt. For example, I have consistently seen uptilts for Veeries (*Catharus fuscescens*; 6 records), Hermit Thrushes (*C. guttatus*; 6), and Wood Thrushes (*Catharus mustelinus*; 7). I also noted uptilted bills for single individuals of Varied Thrush (*Zoothera* [= *Ixoreus*] *naevia*), Gray-cheeked Thrush (*Catharus minimus*), Swainson's Thrush (*C. ustulatus*), and Fieldfare (*Turdus pilaris*), but further observations are desirable to verify that frequently uptilted bills are indeed characteristic for the latter 4 species. Two other species with apparently frequently uptilted bills during pauses are the partially terrestrial woodpeckers: the Common Flicker (*Colaptes auratus*; 12 records) and the European Green Woodpecker (*Picus viridis*; 2), which in my observations exhibited uptilts during pauses both on the ground and when perched transversely on limbs.

The taxa mentioned thus far appear to have either frequently uptilted bills during pauses, or uptilts only rarely or not at all. However, the European Robin (*Eritacus rubecula*), which is also placed in the thrush subfamily Turdinae but widely separated from the species mentioned above, appears to be intermediate in frequency of an uptilted bill; I noted 12 pauses with uptilts and 13 without, values significantly different from the corresponding figures of 36:3 for Song Thrushes (χ^2 tests both corrected and uncorrected for small samples; $P < .01$).

Those thrushes with a frequently uptilted bill during pauses apparently do not elevate the bill further during song as I noted without exception for the Veery (6 records), Wood Thrush (6), Blackbird (32), Song Thrush (26), and Mistle Thrush (9), all of which are thus like the American Robin and unlike certain American emberizines, parulids, and other Passerines which often raise the head coincident with song (Clark 1976).

Probably the uptilted bill in the thrushes during pauses results simply from a slightly

raised head, but this is difficult to verify in the field. Several observers (Witherby et al. 1938, Goodwin 1978, Simms 1978) have correctly noted that the body inclination of the European Blackbird on the ground is usually less upright than that of the Song or Mistle thrush or American Robin. Correspondingly, I have noted that the angle of the bill above the horizontal in Blackbirds is often less than that of these other *Turdus* species. Blackbirds dig with the bill in litter much more than do these other *Turdus* species (Simms 1978, pers. obs.), and I suggest that the difference in posture during pauses might be related to the difference in foraging. Much remains to be learned about the frequency of uptilted bills among birds in general and about the functional and possible systematic significance of the frequent uptilt in thrushes.

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Canada Goose Feeding Damages Shellfish Beds.—During the fall of 1976, the Massachusetts Shellfish Officers Association (MSOA) lodged a complaint with the Division of Fisheries and Wildlife that Canada Geese (*Branta canadensis*) were feeding on soft shelled clams (*Mya arenaria*). A review of the literature revealed no reports of Canada Geese ingesting shellfish. A questionnaire prepared by Burke Limeburner, President of MSOA was distributed in 1977 at the MSOA convention. Officers from 11 towns indicated they had "major problems" with geese on shellfish beds, 4 indicated "minor problems," and 8 had no problems. I contacted several of the officers reporting major problems. Officers differed in their views of when depredations on clam beds were greatest. Some felt the problem occurred during the summer when seed clams were small enough to be ingested by geese, while others felt that winter was the worst time when wintering populations of geese were greatest and other food sources limited.

I selected 3 towns on Cape Cod for field observations of Canada Geese. Seven observation periods of 3-4 h duration were made between August and November 1977. I observed no Canada Geese feeding over clam beds although I did observe Mallards (*Anas platyrhynchos*) and Black Ducks (*A. rubripes*) doing so. These birds engaged in puddling activities, treading the bottom during shallow water periods, creating bowl shaped depressions. This action stirred up the bottom, exposing previously-covered food items. Shellfish officers stated that they observed Canada Geese performing similar actions.

No further field observations were made until January 1980 when I observed Canada Geese feeding over clam beds and performing the puddling actions described by Shellfish Officers. The geese, however, appeared to be feeding on grasses inundated by the high tide.

I also talked with Winthrop Taylor, a deputy shellfish officer with formal training in biology and an avid goose hunter. He reported observing geese puddling in shellfish areas and that whenever he shot one of these birds he found only sedge (*Carex* sp.) roots in the gizzard.

A total of 188 gizzards were collected from geese shot along coastal Massachusetts during the 1977-80 hunting seasons. The sample included 86 from towns where shellfish officers indicated geese were damaging clam beds. One gizzard contained 3 small, unidentified salt water snails. None contained shellfish.