MORRIS, A. 1984. Barbed-wire fences, owls, and others. Honeyguide 30:125.

- NERO, R. W. 1974. Great Gray Owl entangled in barbed wire. Blue Jay 32:178-179.
- ROBSON, J. E. 1969. Dipper flying into barbed wire fence. Br. Birds 62:498.
- SIEGFRIED, W. R. 1972. Ruddy Ducks colliding with wires. Wilson Bull. 84:486-487.
- SMIT, T., T. BAKHUIZEN, AND D. A. JONKERS. 1987. Doodsoorzaken van Torenvalken Falco tinnunculus in Nederland. Limosa 60:175–178.
- STOUT, I. J. 1967. The nature and pattern of non-hunting mortality in fledged North American waterfowl. M.S. thesis, Virginia Polytechnic Inst., Blacksburg, Virginia.
- AND G. W. CORNWELL. 1976. Nonhunting mortality of fledged North American waterfowl. J. Wildl. Manage. 40:681–693.
- STRONCEK, L. H. 1978. Fences take toll. Colo. Outdoors 27(2):47.
- WALKER, A. 1916. Some raptores of Douglas County, South Dakota. Condor 18:130.
- WEAVER, D. K., AND R. ST. ORES. 1974. Trumpeter Swan mortality. Proc. Papers, Trumpeter Swan Soc. Conf. 3:86–89.
- WEIR, D. N. 1971. Mortality of hawks and owls in Speyside. Bird Study 18:147-154.
- WILLIAMS, C. S. 1967. Honker—a discussion of the habits and needs of the largest of our Canada Geese. D. Van Nostrand Co., New York, New York.

GEORGE T. ALLEN, U.S. Fish and Wildlife Service, 315 Houston Street, Suite E, Manhattan, Kansas 66502 AND PEDRO RAMIREZ, U.S. Fish and Wildlife Service, 2617 East Lincolnway, Suite A, Cheyenne, Wyoming 82001. Received 24 April 1989, accepted 7 Nov. 1989.

Wilson Bull., 102(3), 1990, pp. 558-559

Deception in Canada Geese.—Deception in communication and manipulation of one individual by another are relatively new concepts in animal behavior. This note describes how a Canada Goose used the presence of other unrelated geese to obtain access to food. The observation was incidental to a study of Giant Canada Goose (*Branta canadensis maxima*) vocal and visual communication at the Milwaukee County Zoological Park, Milwaukee, Wisconsin. The zoo has a 0.5-ha lake near which I maintained a winter feeding site for my study geese. This site occasionally was used by geese of other subspecies, presumably migrants. Subspecies present 20 February 1982, when the deception observation occurred, were judged by medium size and light color and small size and very dark breast and back color to be Todd's Canada Goose (*B. c. interior*) and the Cackling Canada Goose (*B. c. minima*), respectively. Both subspecies were easily distinguished from my pinioned Giant Canada Geese.

Canada Goose intraspecific aggression has been described (Collias and Jahn, Auk 76:476– 509, 1959; Klopman, Beh. 30:287–319, 1968), as has the normal social structure of the geese in winter (Raveling, J. Wildl. Manage. 33:304–318, 1969). Surviving family members normally remain together throughout the winter and often gain access to food via threats and group aggressive displays. Families are effectively closed, usually not tolerating unrelated geese closer than 2–3 m (Raveling, Beh. 37:291–317, 1970). Larger family groups generally displace smaller ones in gaining access to food. Single young of the year are subordinate to single adults which are subordinate to pairs; pairs with the most young are the most dominant (Raveling 1969). Lone geese, when approaching a group, almost invariably assume submissive postures, the beak just touching the breast feathers (Klopman 1968) and turn away.

MURRAY, J. J. 1929. A dead Clapper Rail found at Lexington, in the valley of Virginia. Auk 46:106-107.

On 20 February 1982, 18–20 Todd's Canada Geese (TCG) and one Cackling Canada Goose (CCG), all flighted, were present near the feeding site. My study geese prevented access to the feeding site as they loafed and fed there from 08:30-11:40 CST. My Giant Canada Geese (CCG) were not a family group but unrelated, wild-caught birds previously confined together in a 5 × 5-m quarantine pen for a month after capture in July, 1981. However, they behaved more like a family than independent yearling geese, demonstrating coordinated behavior in aggressive threat situations. These GCGs prevented access to the corn, even when approached by three and four member families of TCGs in group threat display, and repeatedly repelled the lone Cackling Canada Goose which approached in bentneck submissive posture.

Just before noon, two adult and six immature TCGs flew into the lake, landing with a greeting ceremony that identified them as a family (Raveling 1969). They swam ashore and without hesitation began walking toward the food. The gander, slightly larger and deeper voiced than the others, approached the food with stiff strides, head down, and neck fully extended, and calling. The remainder of the family followed the gander in line-abreast formation, called, and alternated between neck-pumping (neck extended vertically then brought down to the base with the head touching the breast, often repeated, Klopman 1968) and the horizontal head-neck extension postures of aggression or threat. The Giant Canada Geese quickly ceded the food to the newcomers.

The one thoroughly uncharacteristic act observed during this otherwise normal aggressive displacement was that the lone Cackling Canada Goose, initially displaced by the approaching flock, ran around behind the family and then, neck-pumping and calling, assumed a position in the approaching line. Upon gaining the food pile the family gave a mutual triumph ceremony, waving heads and necks toward one another and calling. The Cackling Canada Goose also called and weaved the neck during this ritual normally reserved for family members, then all settled on their bellies about 0.5 m apart and began feeding. Occasionally the goose on either side of the CCG would stop feeding, rise, and extend the neck in threat toward it. The CCG rose, turned away from the threatening bird and moved off roughly 0.1 m, whereupon the threatening bird would return to feeding. The CCG then returned to feeding also. Several times while the Cackling Canada Goose was feeding, single geese approached the food pile and attempted to displace it via threat postures. When this happened, the family gander chased the approaching goose in head down aggressive posture. The Cackling Canada Goose fed for nearly 25 min before the family gander chased it along with another unmarked single goose which approached and had been attempting to displace the CCG at the food. The lone Cackling Canada Goose, by the deception involved in joining with and behaving as one of the family during the aggressive confrontation and the triumph ceremony, succeeded in gaining access to the food and was protected-as a family member would be-while it fed. The low level of aggression between adjacent family members and the cackler is characteristic of intra-family aggression (Raveling 1970), and the cackler responded as expected for a weak threat between family members. Such a deception has never been reported for Canada Geese. In fact, it has long been accepted that participation in the triumph ceremony is the most reliable means of determining family members from non-family individuals (Raveling 1969). Had the cackler been the same subspecies as the family it joined, I would have assumed that it had simply been separated from and then rejoined its family. The deception would go unnoticed except in marked cohorts or when differing subspecies are involved.

Acknowledgments. – I would like to acknowledge the assistance of the Milwaukee County Zoological Park Director and Administration in making my dissertation study possible and the cooperation of the staff of that institution for their advice and assistance. – PHILIP C. WHITFORD, Biology Dept., Winona State Univ., Winona, Minnesota 55987. Received 30 June 1987, accepted 21 Nov. 1989.