

CORRESPONDENCE

Sir:

I read "Thermal soaring by migrating Starlings" by Clarence D. Cone, Jr. (*Auk*, 85, 1968: 19-24) with considerable interest. Cone presents an extremely novel interpretation of a phenomenon that has interested me for some time, namely the flocking, swarming, bunching, or mobbing reactions of birds to avian predators. Cone believes that the circling movements of a flock of Starlings in the vicinity of a flying hawk represents thermal soaring by the Starlings. Cone is almost certainly wrong in his analysis, and it is regrettable that his attention was not directed to the considerable body of literature dealing with the phenomenon.

A. C. Bent (*Bull. U. S. Natl. Mus.*, 197, 1950: 209-210) describes several such incidents and considers the Starlings' reaction to flying hawks an attack by the former on the latter. Tinbergen (*The study of instinct*, 1951: 169-170) considers the behavior to be usually an evasive movement by the Starlings. Tinbergen also notes (*Social behavior in animals*, 1953: 55) that hawks select birds isolated from the flock and do not attack the flock itself, and the Starlings' swarming thus has survival value. Hailman (*Condor*, 61: 1959: 369) suggests that the behavior of the Starlings may be oriented for evasion, distraction, or for attack, depending on the Starlings' motivation. Gersdorf (*Z. Tierpsychol.*, 23, 1966: 37-43) lists a number of examples, surveys the pertinent German literature, and concludes that the behavior usually constitutes an attack by the Starlings on the hawk. Gersdorf has seen flocks of Starlings drive *Accipiter nisus* into the water and presents evidence suggesting that some of the hawks drowned.

I have watched flocks of Starlings react to flying hawks on more than 100 occasions. I have recorded the phenomenon during every season in Wisconsin and have noted it in a number of other localities, including some in Sweden and Germany. I believe the reaction of a flock of Starlings to a flying hawk is the aerial equivalent of the mobbing response many breeding passerines make to a sitting hawk or owl. It is curious that Starlings react in this manner to a hawk in flight and also during non-breeding seasons. I hope to publish a more extended account and an analysis of my observations in the near future.—HELMUT C. MUELLER, *Department of Zoology, University of North Carolina, Chapel Hill, N. C. 27514.*

Sir:

As I read "In memoriam: Harry Church Oberholser" in *The Auk* for January, I was reminded of the time he asked me: "How long is the song of the Winter Wren?" I replied "Eight seconds," and he answered "That's exactly what I make it."—ARETAS A. SAUNDERS, *Box 141, Canaan, Conn. 06018.*