the water level, and covered largely with gravel and a little grass. On this island there is a large colony of Caspian Tern (*Hydroprogne caspia*). Most of the eggs were hatched, and the young were everywhere. On the island, there were also two nests of the Herring Gull (*Larus argentatus*) with half grown young. The Herring Gull is the proverbial enemy of the Caspian Tern and is not adverse to destroying its eggs or young. Yet, these two families of different species had lived in harmony on the island. I was anxious to catch one of the young Herring Gulls to make some studies. As I approached the nest of the Herring Gull, however, two terns swooped down and thrust their bills through the heads of the Herring Gull babies causing instant death. This was performed in the presence of myself and my companion, Walter Hastings. Stress on the part of the terns caused them to attack the gulls. ALEXANDER W. BLAIN, M.D., *Detroit, Michigan.*

Evidence for Iron Staining as the Cause of Rusty Discoloration of Normally White Feathers in Anserine Birds.—A rusty color (generally a shade of orange or orange brown) of some of the feathers which are normally white is frequently found in individual Snow Geese (*Chen hyperborea*), Blue Geese (*Chen caerulescens*) and Ross's Geese (*Chen rossii*), particularly on the head, as well as in swans of various species. It is generally believed that this color is due to a deposition of iron oxides on the feathers assumed to take place when birds feed in water containing these salts in solution rather than to true feather pigmentation. I have heard the suggestion that the variable brownish color of the back of the Sandhill Crane (*Grus canadensis*) is of a similar nature resulting in this case from the birds' placing water weeds on the back. The Handbook of British Birds (Witherby *et al.*, 1943, London) states that this sort of coloration in swans is due to deposition of peroxide of iron. However, I am not aware of any evidence to substantiate this view and personally felt rather skeptical about it.

I therefore extracted some orange brown feathers from the face of a Lesser Snow Goose (*Chen hyperborea hyperborea*) in concentrated hydrochloric acid. The acid in a few minutes took on a yellow color while the feathers became decolorized. Similar acid extraction of white feathers or brown Mallard (*Anas platyrhynchos*) feathers yielded no color in solution. The acid extract of the brownish goose feathers was filtered and tested for iron by the thiocyanate and ferrocyanide tests; both of these tests proved to be positive. White feathers from the neck of the same goose similarly treated gave a positive ferrocyanide, but a negative thiocyanate test and presumably also contained some iron but in smaller amounts. Brown mallard primaries and brown secondaries of House Sparrows (*Passer domesticus*) similarly extracted gave a negative reaction for iron by both these tests.

Finally an attempt was made to produce the naturally observed orange brown discoloration artificially. Some mallard secondaries were immersed for a few days in a 3 per cent solution of ferric chloride. The white tips and edges of these feathers took on an orange brown discoloration which could not be removed by short periods of immersion in water. While the water to which birds naturally expose themselves probably does not contain ferric chloride but rather various iron salts, the discoloration probably results from the presence of ferric ions and would be identical in both cases.

These experiments therefore show that rust-colored Snow Goose feathers contain iron which is absent in Mallard and sparrow feathers and that the discoloration can be artificially reproduced by immersion in solution of a ferric salt.—E. O. HÖHN, *Department of Physiology, University of Alberta, Edmonton, Alberta, Canada.*