

selected and profitable modification, or to acquired and inherited habit. In the same manner, as the northern and southern thrushes have largely inherited their instinctive modification from a common parent, so no doubt the thrush and blackbird have likewise inherited much from their common progenitor, but with somewhat more considerable modifications of instinct in one or both species, from that of their ancient and unknown ancestor.

We will now consider the variability of the nesting-instinct. The cases, no doubt, would have been far more numerous, had the subject been attended to in other countries with the same care as in Great Britain and the United States. From the general uniformity of the nests of each species, we clearly see that even trifling details, such as the materials used and the situation chosen on a high or low branch, on a bank or on level ground, whether solitary or in communities, are not due to chance, or to intelligence, but to instinct. The *Sylvia sylvicola*, for instance, can be distinguished from two closely allied wrens more readily by its nest being lined with feathers than by almost any other character. ("Yarrell's British Birds.")

Necessity or compulsion often leads birds to change the situation of their nests: numerous instances could be given in various parts of the world of birds breeding in trees, but in treeless countries on the ground, or amongst rocks. Audubon (quoted in "Boston Journ. Nat. Hist.," vol. iv, p. 249) states that the Gulls on an islet off Labrador, "in consequence of the persecution which they have met with, now build in trees," instead of in the rocks. Mr. Couch ("Illustrations of Instinct," p. 218) states that three or four successive layings of the sparrow (*F. domesticus*) having been destroyed, "the whole colony, as if by mutual agreement, quitted the place and settled themselves amongst some trees at a distance—a situation which, though common in some districts, neither they nor their ancestors had ever before occupied here, where their nests became objects of curiosity." The sparrow builds in holes in walls, on high branches, in ivy, under rooks' nests, in the holes made by the sand-martins, and often seizes on the nest made by the house-martin: "the nest also varies greatly according to the place" (Montague, "Ornitho. Dict.," p. 482). The Heron (Macgillivray, "Brit. Birds," vol. iv, p. 446; W. Thompson, "Nat. Hist. Ireland," vol. ii, p. 146) builds in trees, on precipitous sea-cliffs, and amongst heath on the ground. In the United States the *Ardea herodias* (Peabody in "Boston Journal Nat. Hist.," vol. iii, p. 209) likewise builds in tall or low trees, or on the ground; and, which is more remarkable, sometimes in communities or heronries, and sometimes solitarily.

Convenience comes into play: we have seen that the Taylor-bird in India uses artificial thread instead of weaving it. A wild Gold-finch (Bolton's *Harmonia Ruralis*, vol. i, p. 492) first took wool, then cotton, and then down, which was placed near its nest. The common Robin will often build under sheds, four cases having been observed in one season at one place (W. Thompson, "Nat. Hist. Ireland," vol. i, p. 14). In Wales the Martin (*H. urtica*) builds against perpendicular cliffs, but all over the lowlands of England against houses; and this must have prodigiously increased its range and numbers. In Arctic America in 1825 *Hirundo lunifrons* (Richardson, "Fauna Boreali-Americani," p. 331) for the first time built against houses; and the nests, instead of being clustered and each having a tubular entrance, were built under the eaves in a single line and without the