

tubular entrance, or with a mere ledge. The date of a similar change in the habits of *H. fulva* is also known.

In all changes, whether from persecution or convenience, intelligence must come into play in some degree. The Kitty-wren (*T. vulgaris*), which builds in various situations, usually makes its nest to match with surrounding objects (Macgillivray, vol. iii, p. 21); but this perhaps is instinct. Yet when we hear from White (Letter 14) that a Willow-wren (and I have known a similar case), having been disturbed by being watched, concealed the orifice of her nest, we might argue that the case was one of intelligence. Neither the Kitty-wren nor Water-ouzel ("Mag. of Zool.," vol. ii, 1838, p. 429) invariably build domes to their nests, when placed in sheltered situations. Jesse describes a Jackdaw which built its nest on an inclined surface in a turret, and reared up a perpendicular stack of sticks ten feet in height—a labour of seventeen days: families of this bird, I may add (White's "Selborne," Letter 21), have been known regularly to build in rabbit-burrows. Numerous analogous facts could be given. The Water-hen (*G. chloropus*) is said occasionally to cover her eggs when she leaves her nest, but in one protected place W. Thompson ("Nat. Hist. Ireland," vol. ii, p. 328) says that this was never done. Water-hens and Swans, which build in or near the water, will instinctively raise their nest as soon as they perceive the water begin to rise (Couch "Illustrations of Instinct," p. 223-6). But the following seems a more curious case:—Mr. Yarrell showed me a sketch of the nest of a Black Australian Swan, which had been built directly under the drip of the eaves of a building; and, to avoid this, male and female conjointly added semicircular * to the nest, until it extended close to the wall, within the line of drip; and then they pushed the eggs into the newly added portion, so as to be quite dry. The Magpie (*Corvus pica*) under ordinary circumstances builds a remarkable, but very uniform nest; in Norway they build in churches, or spouts under the eaves of houses, as well as in trees. In a treeless part of Scotland, a pair built for several years in a gooseberry bush, which they barricaded all round in an extraordinary manner with briars and thorns, so that "it would have cost a fox some days' labour to have got in." On the other hand, in a part of Ireland, where a reward had been offered for each egg and the magpies had been much persecuted, a pair built at the bottom of a low thick hedge, "without any large collection of materials likely to attract notice." In Cornwall, Mr. Couch says he has seen near each other, two nests, one in a hedge not a yard from the ground and "unusually fenced in with a thick structure of thorns;" the other "on the top of a very slender and solitary elm—the expectation clearly being that no creature would venture to climb so fragile a column." I have been struck by the slenderness of the trees sometimes chosen by the magpie; but, intelligent as this bird is, I cannot believe that it foresees that boys could not climb such trees, but rather that, having chosen such a tree, it has found from experience that it is a safe place.†

Although I do not doubt that intelligence and experience often come into play in the nidification of Birds, yet both often fail: a Jackdaw has been seen trying in vain to get a stick through a turret window, and had

* [A word is here accidentally omitted in the MS.—G. J. R.]

† For Norway, see in *Mag. of Zool. and Bot.*, 1838, vol. ii, p. 311. For Scotland, Rev. J. Hall, *Travels in Scotland*, see Art. "Instinct" in *Cyclop. of Anat. and Physiol.*, p. 22. For Ireland, W. Thompson, *Nat. Hist. of Ireland*, vol. ii, p. 329. For Cornwall, see Couch, *Illustrations of Instinct*, p. 213.