

well-closed hive: this ventilation has been artificially imitated,* and as it is carried on even during winter, there can be no doubt that it is to bring in free air and displace the carbonic acid gas: therefore it is in truth indispensable, and we may imagine the stages—a few bees first going to the orifice to fan themselves—by which the instinct might have been arrived at. We admire the instinctive caution of the hen-pheasant which leads her, as Waterton remarked, to fly from her nest and so leave no track to be scented out by beasts of prey; but this again may well be of high importance to the species. It is more surprising that instinct should lead small nesting birds to remove their broken eggs and the early mutings, whereas with partridges, the young of which immediately follow their parents, the broken eggs are left round the nest; but when we hear that the nests of those birds (Halcyonidae) in which the mutings are not enclosed by a film, and so can hardly be removed by the parent, are thus “rendered very conspicuous;”† and when we remember how many nests are destroyed by cats, we cannot any longer consider them instincts of trifling importance. But some instincts one can hardly avoid looking at as mere tricks, or sometimes as play: an Abyssinian pigeon when fired at, plunges down so as to almost touch the sportsman, and then mounts to an immoderate height:‡ the Bizcacha (*Lagostomus*) almost invariably collects all sorts of rubbish, bones, stones, dry dung, &c., near its burrow: Guanacoës have the habit of returning (like Flies) to the same spot to drop their excrement, and I saw one heap eight feet in diameter; as this habit is common to all the species of the genus, it must be instinctive, but it is hard to believe that it can be of any use to the animal, though it is to the Peruvians, who use the dried dung for fuel.§ Many analogous facts could probably be collected.

Wonderful and admirable as most instincts are, yet they cannot be considered as absolutely perfect: there is a con-

* Kirby and Spence, *Entomology*, vol. ii, p. 193.

† Blyth in *Mag. of Nat. Hist.*, N.S., vol. ii.

‡ Bruce's *Travels*, vol. v, p. 187.

§ See my *Journal of Researches*, p. 167 for the Guanaco; for the Bizcacha, p. 145. Many odd instincts are connected with the excrement of animals, as with the wild Horse of S. America (see *Azara's Travels*, vol. i, p. 373), with the common House Fly and with Dogs; see on the urinary deposits of the Hyrax, Livingston's *Missionary Travels*, p. 22.