we must rank amongst the most wonderful of instincts; and yet these instincts must often have been dormant during many generations: I refer to the death of the queen, when several worker-larvæ are necessarily destroyed, and being placed in large cells and reared on royal food, are thus rendered fertile: so again when a hive has its queen, the males are all infallibly killed by the workers in autumn; but if the hive has no queen, not a single drone is ever destroyed.* Perhaps a ray of light is thrown by our theory on these mysterious but well ascertained facts, by considering that the analogy of other members of the Bee family would lead us to believe that the Hive-bee is descended from other Bees which regularly had many females inhabiting the same nest during the whole season, and which never destroyed their own males; so that not to destroy the males and to give the normal food to additional larvæ, perhaps is only a reversion to an ancestral instinct, and, as in the case of corporeal structures reverting, is apt to occur after many generations.†

I will now refer to a few cases of special difficulty on our theory—most of them parallel to those which I adduced when discussing in Chapter VIII corporeal structures. Thus we occasionally meet with the same peculiar instinct in animals widely remote in the scale of nature, and which consequently cannot have derived the peculiarity from community of descent. The Molothrus (a bird something like a starling) of N. and S. America has precisely the same habits with the Cuckoo; but parasitism is so common throughout nature that this coincidence is not very surprising. The parallelism in instinct between the White Ants, belonging to the Neuroptera, and ants belonging to the Hymenoptera, is a far more wonderful fact; but the parallelism seems to be very far from close. Perhaps as remarkable a case as any on record of the same instinct having been independently acquired in two animals very remote from each other in relationship, is that of a Neuropterous and a Dipterous larva digging a conical

* Kirby and Spence, *Entomology*, vol. ii, pp. 510–13.

† [Concerning the question why there are so many drones as to require killing, see *Animal Intelligence*, p. 166, where I suggest that among the ancestors of the Hive-bee the males may have been of use as workers. But possibly the drones may even now be of use as nurses to the larvæ, for I am told by an experienced bee-keeper that he believes this to be the case.—G. J. R.]