

hatched all the eggs but one; which, with all the young ones, except the cuckoo, was turned out of the nest. The young birds, consisting of five, were found upon a raster that projected from under the thatch, and with them was the egg, not in the least injured. On examining the egg I found the young wagtail it contained quite perfect, and just in such a state as birds are when ready to be disengaged from the shell. The cuckoo was reared by the wagtails till it was nearly capable of flying, when it was killed by an accident.

*Example III.*

A hedge sparrow built her nest in a hawthorn bush in a timber yard; after she had laid two eggs, a cuckoo dropped in a third. The sparrow continued laying as if nothing had happened, till she had laid five, her usual number, and then sat.

June 20, 1786. On inspecting the nest I found, that the bird had hatched this morning, and that every thing but the young cuckoo's was thrown out. Under the nest I found one of the hedge sparrows dead, and one egg by the side of the nest entangled with the coarse woody materials that formed its outside covering. On examining the egg, I found one end of the shell a little cracked, and could see that the sparrow it contained was yet alive. It was then restored to the nest, but in a few minutes was thrown out. The egg being again suspended by the outside of the nest, was saved a second time from breaking. To see what would happen if the cuckoo was removed, I took out the cuckoo, and placed the egg containing the hedge sparrow in the nest in its stead. The old birds, during this time, flew about the spot, shewing signs of great anxiety, but when I withdrew, they quickly came to the nest again. On looking into it in a quarter of an hour afterward, I found the young one completely hatched, warm and lively. The hedge sparrows were suffered to remain undisturbed with their new charge for three hours (during which time they paid every attention to it) when the cuckoo was again put into the nest. The old sparrows had been so much disturbed by these intrusions, that for some time they shewed an unwillingness to come to it: however, at length they came; and on examining the nest again in a few minutes, I found the young sparrow was tumbled out. It was a second time restored, but experienced the same fate.

From these experiments, and supposing, from the feeble appearance of the young cuckoo just disengaged from the shell, that it was utterly incapable either of removing the egg or the young sparrows, I was indu-

ced to believe, that the old sparrows were the only agents in this seeming unnatural business; but afterwards clearly perceived the cause of this strange phenomenon, by discovering the young cuckoo in the act of displacing its fellow nestlings, as the following relation will evince.

June 18, 1787, I examined the nest of a hedge-sparrow, which then contained a cuckoo's and three hedge-sparrow's eggs. On inspecting it the day following, I found the bird had hatched, but that the nest now contained only a young cuckoo and one young hedge-sparrow. The nest was placed so near the extremity of a hedge, that I could distinctly see what was going forward in it; and, to my astonishment, saw the young cuckoo, though so newly hatched, in the act of turning out the young hedge-sparrow.

The mode of accomplishing this was very curious. The little animal, with the assistance of its rump and wings, contrived to get the bird up on its back, and making a lodgment for the burden by elevating its elbows, clambered backward with it up the side of the nest till it reached the top, where resting for a moment, it threw off its load with a jerk, and quite disengaged it from the nest. It remained in this situation a short time, feeling about with the extremities of its wings, as if to be convinced whether the business was properly executed, and then dropped it to the nest again. With these (the extremities of its wings) I have often seen it examine as it were, an egg and nestling before it began its operation; and the nice sensibility which these parts appeared to possess seemed sufficiently to compensate the want of sight, which as yet it was destitute of. I afterwards put in an egg, and this, by a similar process, was conveyed to the edge of the nest, and thrown out. These experiments I have since repeated several times in different nests, and have always found the young cuckoo disposed to act in the same manner. In climbing up the nest, it sometimes drops its burden, and thus is foiled in its endeavours; but, after a little respite, the work is resumed, and goes on almost incessantly till it is effected. It is wonderful to see the extraordinary exertions of the young cuckoo, when it is two or three days old, if a bird be put into the nest with it that is too weighty for it to lift out. In this state it seems ever restless and uneasy. But this disposition for turning out its companions begins to decline from the time it is two or three till it is about twelve days old, when, as far as I have hitherto seen, it ceases. Indeed, the disposition for throwing out the egg appears to cease a few days sooner; for I have