

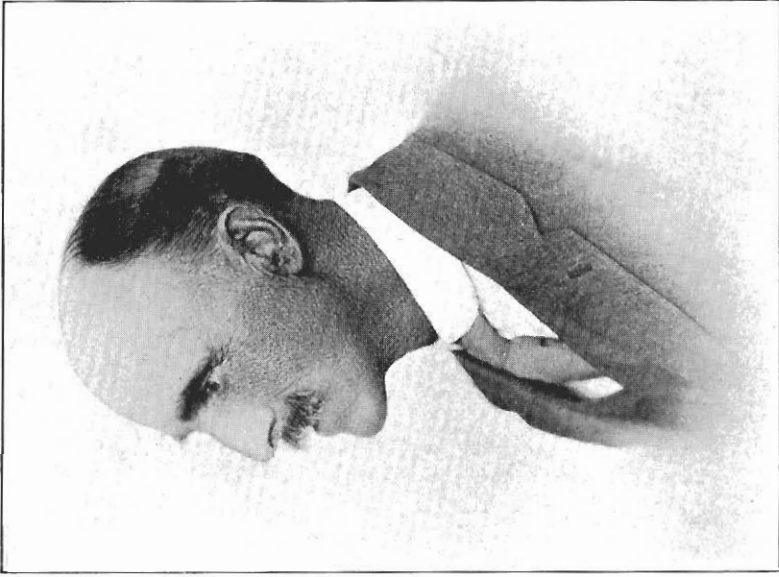
which position he held till 1932, when he retired, at his own request, in favour of the writer. Finally, it is to be recorded that at the 1933 Congress Mr. Whitlock was elected an Honorary Member of the R.A.O.U. in recognition of the long and valuable services he has rendered to Australian ornithology.

Multiple Nest-building.—During a visit to my brother's farm at Cranbourne, Vic., in November, 1939, the manager informed me that he had noticed two pairs of Swallows flying in and out of some new cow-bails, with nesting material. The bails had been erected about a fortnight and two nests were almost completed at the time of my visit. Eggs were laid by one pair of birds in due course.

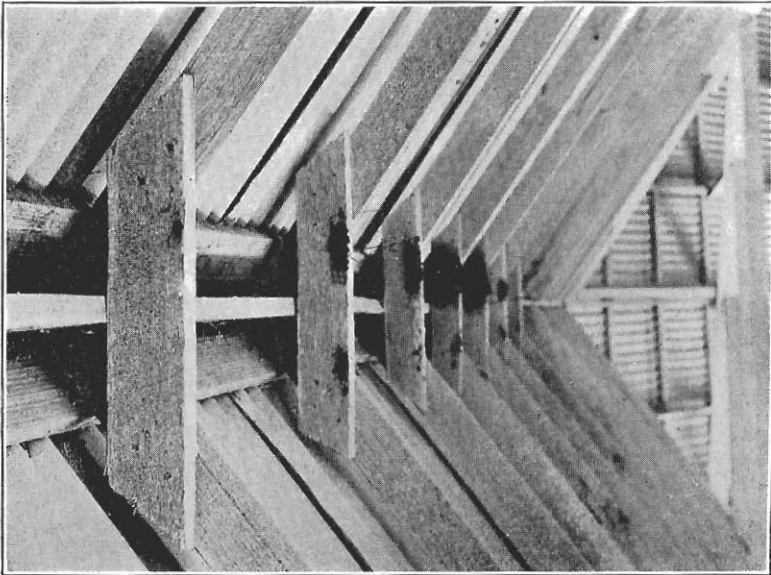
The point of interest which struck me was the visible evidence of other nests that had been started and abandoned at various stages. Altogether there were eleven efforts ranging from a small daub of mud to the completed structure. My own observations regarding the number of pairs confirmed those of the manager, but whether one pair built only one nest, the other nests being started and not completed by a second pair, I am unable to say. It seems clear, however, that one or both pairs engaged in multiple nest-building.

In *The Emu* (vol. XXXIX, p. 243) I recorded the building of eighteen nests in one season by a pair of Willie-Wagtails and also referred to some American records of this unusual nesting behaviour. Fisher, in *Birds As Animals*, mentions some English examples and attributes them to "direct (but unusual) environmental factors." "A Dipper observed by Rowan," he writes, "failed entirely to cope with the problem caused by a bridge which formed a number of identical pigeon-holes, each one equally suitable as a nesting site. The bird was apparently unable to choose between one hole and another and had nests at various stages in nearly every one." Other records include a Blackbird which built a series of nests between the rungs of a horizontal ladder hung against a wall, a Swallow which laid in two duplicate nests eight inches apart, and a Pied Wagtail which built six nests in ventilation holes in a wall. Jourdain states that this habit has been recorded of the Song-Thrush, Robin, Redstart, and Chaffinch.

The significant facts of multiple nest-building are that the nests are built in artificial sites provided by man and that these sites are contiguous and very similar in appearance. The explanation most generally favoured is that the birds are confused by the identical nature of the sites and learn only gradually to concentrate on and finish a particular nest. It will be noticed that two nests have been started on some cross-beams in the bails but they may be the work of two different birds. A very competent ornithologist



Mr. F. Lawson Whitlock.



Unfinished nests of Swallows, illustrating multiple nest-building.

Photo, by N. L. Roberts.

whom I know rejects the theory that the bird's sense of direction is at fault and is inclined to believe that the bird rejects one site after another because it discovers some inherent fault in the material. The cow-bails, however, were new and it may be fairly safely assumed that each cross-beam was sound. It seems unlikely that all the pigeon-holes in the bridge selected by the Dipper were unsound or that several rungs of a steel ladder, chosen by a pair of American Robins, were faulty. I think this viewpoint is reliable, even when allowance is made for the inevitable differences in human and bird conceptions of what is suitable and unsuitable material or environment. In the case of birds such as Shearwaters, the nests of which are close together in burrows which they are able to find without difficulty, even at night, it seems reasonable to postulate a specially-developed sense of direction. Swallows are migratory as a group, but it does not follow that the directional instinct which guides them on long migrations will be adequate for dealing with the problem of contiguous nesting sites. It is possible that careful, detailed observations of multiple nest-building operations will throw new light on the problem, but meanwhile the "confusion" theory seems the most reasonable explanation.—N. L. ROBERTS, Beecroft, N.S.W., 28/2/40.

Multiple Nest-building.—In the January issue there is a note by Mr. N. L. Roberts recording an observation by E. J. Missen concerning multiple nest-building. It was thought by Mr. Roberts to be the first record of its kind in Australia.

While living at Westbury, Tasmania, we had a house with a rather lofty back verandah, enclosed at both ends, having two vertical posts and a tank and a downpipe, and with rafters about 18 inches apart. About 20 years ago a pair of Swallows (*Hirundo neoxena*) began building the customary mud nest at the angle where one of the rafters was butted on to and resting on the horizontal plate. But in this instance they evidently became confused with the angles, as seven nests were begun in similar positions on the left side of seven rafters. After a few days, probably becoming disheartened at the slowness of their progress, they became more careful, and concentrated on only two of the nests, abandoning the others, which were one-fourth built. Eventually one was completed and used.

The birds must have had a most arduous nest-building period. I think that, once having made a smudge of mud on the side of the wood in a wrong place, continuation was easily accounted for, as, wherever the birds came up under the verandah, they would find an incomplete nest.—BRUCE ANDERSON, Launceston, Tas., 7/2/40.