

the activity is *instinctive*. Of such activities Lloyd Morgan's general description is as follows:—"Instincts are congenital, adaptive, and co-ordinated activities of relative complexity, and involving the behaviour of the organism as a whole. They are not characteristic of individuals as such, but are similarly performed by all like members of the same more or less restricted group, under circumstances which are either of frequent recurrence or are vitally essential to the continuance of the race. While they are, broadly speaking, constant in character, they are subject to variation analogous to that found in organic structures. They are often periodic in development and serial in character. They are to be distinguished from habits which owe their definiteness to individual acquisition and the repetition of individual performance."

There is general agreement that the term "instinctive" and not "intelligent" covers the greater part of the more complex activities of the lower animals, such as ants, bees, and wasps. When Bethe (1898) answers in the negative the question—"Is it permissible to ascribe psychical qualities to ants and bees?" and concludes from his experiments that these insects are only "reflex-machines", he is simply using new (and not improved?) terms to indicate the old distinction between intelligent and instinctive.

In many cases it seems necessary to make a compromise, and to interpret certain activities as in part intelligent and in part instinctive. Often it appears as if the animal went jogging along instinctively, pursuing a beaten track in obedience to its inherited cerebral mechanism, but suddenly a novel emergency arises, and such intelligence as the animal has seizes hold of the reins of life.

(3) A third question at present divides comparative psychologists into two camps. Given a case which all will agree to regard as instinctive, *e.g.* the comb-building of bees, the problem at once arises as to the *origin* of this instinct. Modern progress has consisted in practically reducing the alternative theories to two. The instinct is either the outcome of the inheritance of