are made which we cannot agree to if we have interpreted them correctly. After concluding that the reactions of the earthworm are far removed from the sort of 'trial and error method' of the Infusoria, as analyzed by Jennings, and that they do take place by a 'direct reflex,' he tells us: "Methods of trial and error in reaction to light and other ordinary stimuli have clearly been supplanted by more definite responses in all but the protozoa and certain other low types of animal life. * * * For the trial and error method is clearly supplanted in the ascending scale of animal life by reactions of definite nature, in the case of responses to the ordinary stimuli."

Certainly we were of the opinion, at least until the advent of Jennings' work on the protozoa, that the method of trial and error is exemplified *only in the ascending scale of animal life*. Our chief reason for welcoming the work of Jennings is that if his observations are true that protozoa adopt the trial and error method, we are enabled to unify our conception of animal behavior and to bring all types of behavior under the one rubric.

J. B. W.

Some Points Regarding the Behavior of Metridium. LULU F. ALLABACH. Biol. Bulletin, 1905, X., No. 1.

Certain reactions of *Aiptasia* to food were found by Jennings to be due to a state of hunger. What these reactions were this paper does not say. It tests the part hunger plays in reactions of *Metridium*. It was found that as hunger decreased the reactions to food became slower. After a time the outer tentacles refuse filter paper (soaked in meat juice) and later meat. Next the inner tentacles refuse first the filter paper and then the meat. Lastly if filter paper is placed on the mouth it is not ingested. The mouth never refuses meat, but 'from lack of assistance from muscular contraction' it becomes impossible for the cilia to draw the food inward. Whether this lack of muscular assistance is due to fatigue or to satiety we are not told. That when the tentacles cease to react it is not due to fatigue is proved: for, if *Metridium* is satiated, having been fed from one side of the body only, the tentacles on the other side which have not been fatigued refuse food. Moreover, they continue to refuse food for several hours, and fatigue lasts but a few minutes.

Fatigue does occur, however, and explains the reactions described by Nagel in an earlier paper. Long before *Metridium* is satiated the outer tentacles of any one spot refuse, after a short time, first the filter paper and then the meat; but the tentacles on other parts of the

body will still accept food for the time being. Miss Allabach made certain experiments which seem to disprove Nagel's idea that these reactions are due to judgment on the part of *Metridium*. The food was removed from the œsophagus. The tentacles behaved as before. The food had not been digested and *Metridium*, therefore, could not judge by experience that the food was not good. The conclusion is that the tentacles become fatigued.

The problem is a significant one. The method, so far as it goes, is good. Both suffer because Miss Allabach's report is inadequate and not well organized.

CLARA JEAN WEIDENSALL.

UNIVERSITY OF CHICAGO.

REPORTS.

MEETING OF EXPERIMENTAL PSYCHOLOGISTS.

On April 18 and 19 the third annual meeting of Experimental Psychologists was held in the Yale laboratory. No formal program was made up before the meeting and no papers were read. Informal reports were given by representatives of the different laboratories, of investigations under way, and of those recently completed but not yet published. Following each report there was much free discussion. On Wednesday evening the members dined at the Graduate Club and spent the evening in an informal smoker.

On Wednesday morning Professor Titchener reported for Cornell, and characterized the work of that laboratory as being in general an experimental reëxamination of much of the matter which has been current in psychology. He specifically mentioned three lines of investigation: first, a more exact introspective analysis of the feelings; second, a like description of the commoner organic sensations designated in every-day speech by such expressions as 'a lump in the throat'; and third, a series of tests of mental ability. After a discussion the morning session was concluded by the reading of a report from the Chicago laboratory in the absence of its authors, Drs. Carr and Allen. This paper reported a case of voluntary localization of objects in depth through change of accommodation while convergence remained the same, and of voluntarily holding an object at a given localization while convergence varied. The discussion of this report extended into the afternoon and brought out a report by Professor Heinrich, of Krakau, on similar work done by him in Poland. His