

IX.—NOTES.

MIND ASSOCIATION.

There will be a joint session of the MIND Association, the Aristotelian Society and the British Psychological Society, on 7th and 8th June, 1913.

The following arrangements have been made—

Saturday, 7th June, at University College, Gower Street:—

3.30.—The Annual Business Meeting of the MIND Association. President.—Prof. G. Dawes Hicks.

4.0.—Tea.

4.30.—Meeting arranged by the British Psychological Society.—Chairman.—Prof. C. Spearman. Symposium: "Are Intensity Differences of Sensation Quantitative?" Messrs. C. S. Myers, Dawes Hicks, H. J. Watt and Wm. Brown. The papers will be published by the *British Journal of Psychology* and will be taken as read.

7.0.—Dinner in the Refectory.—Price 5s. not including wine. Morning dress. Members and their guests.

9.0.—Meeting arranged by the Aristotelian Society. Chairman.—Hon. Bertrand Russell, President. Paper by Dr. Arthur Robinson on "Memory".

Sunday, 8th June, at Crosby Hall, Cheyne Walk, Chelsea Embankment.

1.0.—Lunch. Tickets 2s. 6d. Members and guests.

2.30.—Meeting arranged by the Aristotelian Society. Chairman.—Hon. Bertrand Russell, President. Symposium: "Can there be anything obscure or implicit in a Mental State?" Messrs. Henry Barker, G. F. Stout and R. F. A. Hoernlé. The Papers will be published in the *Proceedings of the Aristotelian Society* and will be taken as read.

4.30.—Tea.

The following gentlemen have joined the MIND Association since the printing of the January number of MIND:—

Rev. M. Maher, St. Mary's Hall, Stonyhurst, Blackburn.

Prof. A. Mair, Liverpool University.

P. E. B. Jourdain, The Lodge, Girtton, Cambridge.

NOTE ON ACHILLES AND THE TORTOISE.

It is perhaps bold to return once more to this venerable controversy after the treatment of it in Mr. Russell's *Principles of Mathematics*. But it seems worth while on two grounds. In the first place Mr. Russell's arguments, though undoubtedly correct in themselves, do not seem quite to meet the exact difficulty which many intelligent persons feel. And secondly it is important even at this time of day to settle the controversy finally, because it and Zeno's other paradoxes have become the happy hunting-ground of Bergsonians and like contemners of the human intellect.

Mr. Russell's solution is that the supporters of the Achilles are trying to prove that the course of the tortoise can never be a proper part of that of Achilles because the construction shows that each has the same number of points. And he says that their fallacy lies in forgetting that in an infinite class a proper part can have the same number of terms as the whole. But I do not think that they really make the argument turn on considerations of whole and part, but simply on the question that at no point given by the construction has Achilles reached the tortoise.

The argument that I want to put forward may be divided into two parts. The first thing to notice is that it is perfectly true that at no point given by the construction are Achilles and the Tortoise together at the same moment. But the points given by the construction are obviously not *all* the points in the common straight line, but only a small selection of them. Hence the conclusion that they *never* meet or meet at *no* point (which is what is actually asserted) cannot be justified by the explicit premises alone. As far as anything that is made explicit is concerned there is nothing to show that the two do not meet at one of the infinitely numerous points on the line which are not given by the construction. Hence there must be some implicit premise involved. And this brings me to the second part of my argument.

The supporter of the Achilles must evidently hold that if the two do not meet at a point given by the construction they cannot meet at any point on the line. Why should he hold this? I think it is easy to see his reasons and to see that they are fallacious. He can prove that if they meet at any point it must be beyond every point given by the construction. He can also prove that the number of points given by the construction is infinite. And now he assumes the plausible proposition 'what is beyond every one of an infinite series of points must be infinitely beyond the first point of the series'. If this were true his conclusion would follow, for it would take the two an infinite time to reach the only point at which they could possibly meet. But the proposition is utterly false. This can best be illustrated by considering a series of numbers instead of one of points, and the relation of 'greater than' instead of that of 'beyond'. Consider the series whose general term is $2 - \frac{1}{n+1}$ where n can have any integral value including 0. It is clear that its first term is 1. It is further clear that it has an infinite number of terms. Finally 2 is greater than every term of the series. Hence if we had an analogous proposition to that assumed by the supporters of the Achilles we should have to say: '2 is infinitely greater than 1, for it is greater than every term of an infinite series whose first term is 1'. The obvious absurdity of this shows the absurdity of the implicit premises without which the Achilles cannot draw its conclusion.

C. D. BROAD.

"MAURICE THE PHILOSOPHER."

In his note on "Ethics and the New Intuitionists" in the January number of *MIND* Mr. Harold P. Cooke asks me to explain some difficulties he finds in my review (*MIND*, No. 83) of his book *Maurice the Philosopher*.

It is not exactly 'arguments from' but rather 'explanations of' the nature and purpose of definition that I think might have helped to remove some of Leonard's confusions. Such explanations are by no means always required in discussing a question, whether ethical, psychological, or otherwise. The need for them arises only where—as in the dialogue