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978-1-107-62656-0 - The Investigation of Mind in Animals

E. M. Smith

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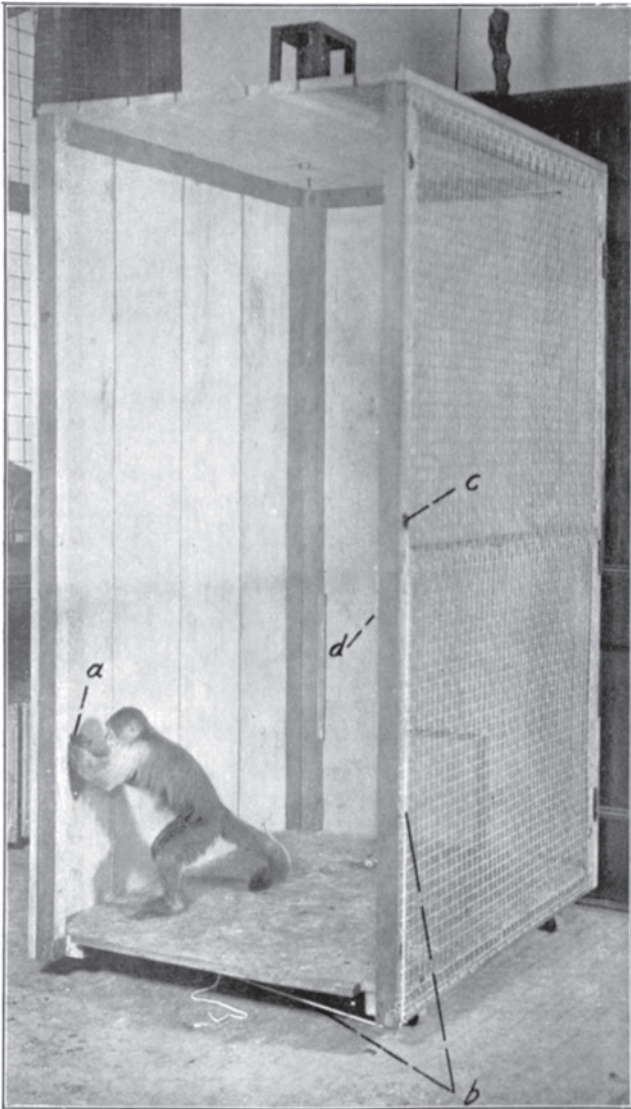
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MIND IN ANIMALS

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MONKEY PERFORMING PLUG EXPERIMENT

a, slide door giving access to food, which could be obtained when the monkey by pulling the string, *b*, passing through a hole, *c*, removed the plug, *d*.

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THE INVESTIGATION
OF
MIND IN ANIMALS

BY

E. M. SMITH

Moral Sciences Tripos, Cambridge

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PREFACE

THERE are few people who cannot relate some apparently striking instance of animal intelligence; the majority of such cases, however, will not stand critical examination. The science which has for its object the systematic investigation of the brute mind is Animal Psychology, and it would seem that the methods of this youthful discipline are still unknown to many, even among those who profess an interest in animal conduct. It is, then, with the purpose of presenting a brief account of the modes of procedure employed by Animal Psychology, its aims, trend, and the general nature of the results hitherto obtained, that this little book has been written. In a work of this character discussion and controversy would have been out of place, so the treatment has been confined as far as possible to description and illustration; at the same time attention has been drawn to some of

the chief difficulties inherent in the inquiry. A complete and exhaustive presentation of facts was, of course, out of question, and much that is of interest and importance has had, inevitably, to be omitted; but it is to be hoped that the interested reader of leisure will refer to some, at least, of the original articles mentioned in the bibliography, nearly all of which will be found to contain further references.

For permission to reproduce the various figures I am indebted to the courtesy of the following: to the Columbia University Press for figures 1 and 3 (from Jennings, *Behavior of the Lower Organisms*), to the Macmillan Company for figures 4, 6 and 9 (from Washburn, *The Animal Mind*, Yerkes, *The Dancing Mouse*, Thorndike, *Animal Intelligence* respectively); to Professor R. W. Yerkes for figures 2 and 7 (from the *Journal of Animal Behavior*); to Professor G. Stanley Hall for figure 5 (from the *American Journal of Psychology*); to the Houghton Mifflin Company for figure 8 (from Peckham, *Wasps, Social and Solitary*); and to the Wistar Institute

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PREFACE

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of Anatomy and Biology for the frontispiece (from the *Journal of Comparative Neurology*).

I desire to express my grateful acknowledgment of the help and advice received from Dr C. S. Myers, who most carefully read through both manuscript and proofs, making many valuable suggestions to the great improvement of the text. To Mr C. L. Burt, who kindly read through the proofs, I am indebted for numerous emendations. My thanks are also due to Miss C. M. Ryley, whose friendly criticism has helped to remove much that was obscure or confused in expression. Lastly, I must thank Mr J. T. Cunningham for permitting me to consult him at considerable length on the subject of hormones, and their possible *rôle* in inciting to functional activity the periodic instincts.

It only remains to state that for all errors, whether of fact, exposition, or interpretation, I alone am responsible.

E. M. S.

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March, 1915

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PREFACE TO THE SECOND EDITION.

THE call for a second edition of *Mind in Animals* has rendered a certain amount of revision necessary. To incorporate the results of the numerous papers bearing on the subject of Animal Behaviour which have been published since 1914 would have meant adding greatly to the size of the book, and as the majority of these contributions revolve round difficult questions of technique, or are somewhat controversial in nature, discussion of them would not have been in place in a short introduction to the subject.

One section, however, deals with entirely new matter. The final section of the first edition, which gave an account of the famous 'talking' horses, I have decided to omit from the present edition, and to replace it by a discussion of the Multiple Choice method of Yerkes and the method of studying perseverance reactions devised by van Hamilton. As yet these methods have not been widely applied, but it is to be anticipated that they will be considerably developed and extended in the future.

For the rest the alterations in the text are chiefly verbal in character. Certain additions have been made to the bibliography.

I desire to express my indebtedness to my husband, Mr F. C. Bartlett, for his help in preparing this new edition for the press.

My thanks are also due to the Syndics of the Press for their courtesy in permitting the aforesaid alterations.

E. M. B.

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