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[p. 3c]

‘Contributions to the Theory of Natural Selection.’

By Alfred Russel Wallace, Author of “The Malay Archipelago,” &c. London: Macmillan and Co. 1871.—The theory of Natural Selection is so closely associated with another great name that Mr. Wallace could not well have done otherwise than explain in his preface the circumstances under which he has written and published this series of essays. It would appear that he is no mere adventurer seeking to capture a prize in Darwinian waters, but that he has studied his subject for many a long year; and, so far from incurring a charge of plagiarism, on several important points he is at variance with Mr. Darwin. He has given us also a considerable amount of original matter, which will be read with interest by all who have bestowed any thought upon what is indisputably the great bone of scientific contention at the present day. But before we consider the matter we may be allowed to say with reference to the form of these essays that the division of each subject into separate heads which catch the reader’s eye at once, and the addition of a copious index, are points which Mr. Wallace has done well not to neglect: many who would fain dabble in science are deterred by the want of method exhibited in the current literature on such subjects; it is exceedingly difficult, save to the practised eye, to detect where exactly one question ends and another begins, and consequently scientific books are comparatively uninteresting unless to scientific readers. In the earlier chapters Mr. Wallace states clearly the law of the population of species, and shows how the abundance or rarity of a species is dependent upon its more or less perfect adaptation to the conditions of existence, while superior varieties will ultimately extirpate the original species. Useful variations will tend to increase, useless or hurtful variations to diminish—an argument which is supported by the following observations:—

“Most or perhaps all the variations from the typical form of a species must have some definite effect, however slight, on the habits or capacities of the individuals. Even a change of colour might, by rendering them more or less distinguishable, affect their safety; a greater or less development of hair might modify their habits. More important changes, such as an increase in the power or dimensions of the limbs or any of the external organs, would more or less affect their mode of procuring food or the range of country which they could inhabit. It is also evident that most changes would affect, either favourably or adversely, the powers of prolonged existence. An antelope with shorter or weaker legs must necessarily suffer more from the attacks of the feline carnivora; the passenger pigeon with less powerful wings would sooner or later be affected in its powers of procuring a regular supply of food, and in both cases the result must necessarily be a diminution of the population of the modified species. If, on the other hand, any species should produce a variety having slightly increased powers of preserving existence, that variety must inevitably in time acquire a superiority in numbers.”

An essay which has interested us as much as any in the book is that “On Instinct in Man and Animals.” We cannot, however, entirely accept the definition of the term which Mr. Wallace proposes; he would define it as “the performance by an animal of complex acts, absolutely without instruction or previously acquired knowledge.” This strikes us as somewhat loose; instinct is an unseen motive power, which leads indeed to the performance of certain acts, but which surely cannot be justly regarded as the acting power which it is its province to excite. Man has a knowledge of the universal, brutes have not; instinct, then, is probably a kind of unconscious, impersonal reason. It is, however, as Mr. Wallace well

demonstrates, very much rarer than is commonly supposed, much that is vulgarly attributed to its agency being satisfactorily explained by reference to the influence of the inborn faculty of imitation. Birds are considered to build their nests by instinct, while man constructs his dwelling by the exercise of reason; reason advances, instinct is stationary. Our author is strongly of opinion that this popular notion is absolutely erroneous, and that both cases may be satisfactorily referred to the imitative faculty. He supports his position by adducing as instances the tent of the Arab and the Irish turf cabin, the character of which is the same now as it was two thousand years ago, and is to be attributed to simple imitation from one generation to another; but he does not tell us what guided men or birds to the present form of domestic architecture in the first instance. Imitation presupposes an original; and whence was the original derived? The song of birds is also denied by Mr. Wallace to be the result of instinct: it depends entirely, he says, upon the society into which they happen to be thrown in their earliest days. Upon this hypothesis young birds, if taken from the nest when one or two days old, before they can appreciate the vocal powers of their parents, and restricted exclusively to the society of mankind, should learn to talk so far as their organs will enable them to imitate the sounds they hear; in support of which theory several instances are quoted, to which the experience of most of us can probably add others.

Turning once more to the grand principle of Natural Selection, to which these minor points are only subordinate, we observe that Mr. Wallace is not an upholder of Darwinism pure and simple; he does not pretend to trace the origin of man to any other species of animal, but only to less perfectly developed specimens of the same species. Mr. Darwin himself admits that Natural Selection has no power to produce modifications in any way injurious to its possessor; if, therefore, on applying the principle to man, we find in him any characters which would have been injurious to him on their first appearance we may safely conclude that they are not to be accounted for in this way; nor would any organ have been so produced if it were useless. The effect of this principle, otherwise known as “the preservation of favoured races in the struggle for life,” so far as it concerns animals, depends, in the opinion of Mr. Wallace, upon their self-dependence and individual isolation. But this is not the case with human beings, who, as we now see them, are, as a species, social and sympathetic; physical characteristics become of less and less importance, while mental and moral qualities have an increasing influence on the welfare of mankind. Moreover, the large brain of the savage and of pre-historic man—large far beyond his actual requirements—seems to point to the existence of some power distinct from that which has guided the development of the lower animals. With reference to the vexed question of a moral sense, Mr. Wallace is one of the school of intuitive, or *a priori* philosophers, and maintains that there is a sense of right and wrong in our nature, antecedent to and independent of all experiences of utility; which is another argument for the insufficiency of Natural Selection to account for the development of man. In conclusion, we can conscientiously recommend this series of essays as containing much that is intelligible and interesting to minds of ordinary education, and as suggesting many original hypotheses to those who are able and willing to pursue the subject farther and devote themselves more entirely to philosophic contemplation.

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*The Alfred Russel Wallace Page*, Charles H. Smith, 2015.