

Transcription, July 2017:

*The Glasgow Herald* 99(3) (4 January 1881): 3a (anon.).

[p. 3a]

(1) 'Island Life.'

Mr Wallace's new work is in supplement of and on the same lines of research as "The Geographical Distribution of Animals." But the present is nevertheless a complete, and in some respects a different, work. This line of inquiry is that suggested by the remarkable contrasts presented in the distribution of animals over the globe. In Japan, for instance, an Englishman, although separated from his own country by the whole width of Europe and Northern Asia, and by thirteen thousand miles of sea, will find so many familiar natural objects as almost to suffice to make him fancy himself at home. He will find the woods and fields tenanted with birds and insects so like those of his own island that only a practised naturalist can tell the difference. But let an Australian take the comparatively short voyage of thirteen hundred miles across to New Zealand, and he finds himself among entirely strange species of animals, while hardly even a familiar tree will meet his eye. And even still more striking anomalies are to be found. Two islands in the Malay archipelago, each as large as Corsica, and separated only by fifteen miles of straits, possess totally dissimilar fauna. And again, the Bahama Islands, separated only by fifty miles of straits from Florida, and having no difference in climate or soil, have yet nothing in common with the American continent, but a vegetation identical with Cuba, and a fauna essentially West Indian. Equally curious are the irregular effects of climate. There is less marked difference between the natural productions of frigid Canada and sub-tropical Florida than between those of Florida and Cuba; and the differences between temperate Tasmania and tropical North Australia are vastly less important than the differences between tropical North Australia and equally tropical Japan. Another curious example is afforded by the three great islands of Sumatra, Borneo, and Celebes; the two first, although farthest apart, have almost identical productions, while the two latter, although closer together, are more unlike than Britain and Japan. These anomalies and contrasts form the problems which it is Mr Wallace's purpose to investigate and solve, and to aid in the study is required a survey of the fauna and flora of the whole world, with close examination of the revelations of geology on extinct forms, evidence as to the migration of birds and plants, and information on the depths and contours of the various ocean beds. This is a vast study, and one to which Mr Wallace has given many years of his industrious life. We have here the results of his painful and minute research, and of that of fellow-labourers in the same field. The plan of the present work is to present first an explanation of the mode of distribution, variation, modification, and dispersal of species and groups, illustrated by facts and examples; of the true nature of geological change as affecting continents and islands; of changes of climate, their nature, causes, and effects of the duration of geological time and the rate of organic development. The elucidation of these points leads up to the consideration of the remarkable facts in the distribution and affinities of organic forms presented by islands in relation to each other and to the surrounding continents. The advantages possessed by islands for the study of "the laws and phenomena of distribution" consist in their restricted area, the almost invariable coincidence of their geographical and biological limits, their more clearly defined and less numerous species and genera than continents, and their more readily traceable relations with other lands. But while in islands the facts of distribution are often presented in their simplest forms, there are others which become more and more complex, and in studying the relations of insular and continental faunas we

get at the same time some information of the latter, and acquire a command over the general principles which underlie all problems of distribution. "It is not too much to say," says Mr Wallace, "that when we have mastered the difficulties presented by the peculiarities of island life we shall find it comparatively easy to deal with the more complex and less-clearly defined problems of continental distribution." Islands constitute two great classes, called respectively "oceanic" and "continental." Oceanic islands are those which are detached fragments of continents; continental islands are those which have never formed part of any continent or large mass of land. The characteristics of the two classes are clearly outlined by Mr Wallace, who then proceeds to treat in detail of the fauna and flora of all the principal islands, or groups of islands, in the world. He brings together an amount of information and a mass of facts such as was never before collected under one focus, and even in treating of the British isles he presents a mass of facts respecting the peculiarities of their fauna and flora for the first time. It would be impossible within reasonable compass to give any idea of Mr Wallace's researches, and our present purpose is merely to indicate the general scope and character of his work. That work traverses a vast field of facts and theories in itself developing the clear and definite theory that "the distribution of the various species and groups of living things over the earth's surface and their aggregation in definite assemblages in certain areas is the direct result and outcome of a complex set of causes, which may be grouped as 'biological' and 'physical.'" The biological causes are mainly of two kinds—firstly, the constant tendency of all organisms to increase in numbers and to occupy a wider area, and their various powers of dispersion and migration through which, when unchecked, they are enabled to spread widely over the globe; and secondly, those laws of evolution and extinction which determine the manner in which groups of organisms arise and grow, reach their maximum, and then dwindle away, often breaking up into separate portions, which long survive in very remote regions." And the physical causes are also mainly of two kinds:—First, "The geographical changes which at one time isolate a whole fauna and flora at another time lead to their dispersal and intermixture with adjacent faunas and floras;" and second, "the nature, extent, and frequency of the changes of climate which have occurred in various parts of the earth." In developing this theory Mr Wallace defines the exact character of areas of distribution as applied to species, genera, and families, and traces the origin, growth, and decay of species and genera. He then investigates the means adopted by the various groups of animals to overcome the barriers which seem to limit them to restricted areas, and the alteration and removal to which these barriers have been subjected by the changes of land, sea, and climate which the earth has undergone. The subject of climate necessitates a long discussion of the "glacial epoch," and a final acceptance of Mr Croll's views on this, with certain limitations and modifications. In discussing the cognate question of geological time Mr Wallace differs from many physicists in estimating the age of the world, the periods usually allowed, he considers, being far in excess of such as are required for geological and organic change. And, finally, it may be said that Mr Wallace presses upon us the conviction of the complete interdependence of organic and inorganic nature. "Not only does the marvellous structure of each organised being involve the whole past history of the earth, but such apparently unimportant facts as the presence of certain types of plants or animals in one island rather than in another are now shown to be dependent on the long series of past geological changes—on these marvellous astronomical revolutions which cause a periodic variation of terrestrial climates—on the apparently fortuitous action of storms and currents in the conveyance of germs—and on the endlessly varied actions and reactions of organised beings on each other." The consideration of these various causes, and the contemplation of the immense mass of facts which Mr. Wallace has collected together in pursuing his theory, give us not only a clearer and fuller insight into the course of nature, but press upon

us the irresistible conviction that “the ‘mighty maze’ of being we see everywhere around us is ‘not without a plan.’”

(1) *Island Life; or the Phenomena and Causes of Insular Faunas and Floras, including a Revision and Attempted Solution of the Problem of Geological Climates.* By Alfred Russel Wallace, author of “The Malay Archipelago,” &c., &c. London: Macmillan & Co. 1880.

*The Alfred Russel Wallace Page*, Charles H. Smith, 2017.