

people the whole habitable portion of the globe, is a fact which has only been realised since Malthus, and, on a much larger and more general scale, Darwin and Wallace have drawn attention to it.¹ This being generally admitted, the questions arise: What are these automatic checks, and what results do they produce? It is evidently quite a new line of reasoning, unknown to former naturalists, or only sporadically and fragmentarily pursued by them; but it introduces us at once into nature itself, away from the class-room and the museum, where we hear of the forces and laws of nature in their abstract mathematical development, or where we behold specimens arranged peacefully and lifelessly side by side. We are face to face with the fierce and continuous conflict which is unceasingly going on around us, and realise the endless changes which it must be producing.

Among the many influences which the Darwinian view has had in opposite directions on the thought of our age, none is greater or more fundamental than this, that whereas before Darwin naturalists stepped

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Outdoor
studies.

¹ On the publication of the 'Origin of Species,' Darwin received many letters pointing out earlier anticipations of his views. The more important of these—bearing upon descent and change—have been referred to in the present chapter. The special principle of natural selection seems to have been already foreseen by Dr Wells in 1813, and published in his famous 'Two Essays upon Dew and Single Vision' in 1818. "In this paper he distinctly recognises the principle of natural selection, and this is the first recognition which has been indicated" ('Origin of

Species,' historical sketch to later editions). Another anticipation was that of Patrick Matthew in 1831, in his work on 'Naval Timber and Arboriculture.' "Unfortunately the view was given very briefly in scattered passages in an appendix to a work on a different subject, so that it remained unnoticed until Mr Matthew himself drew attention to it in the 'Gardeners' Chronicle' on April 7, 1860. . . . He clearly saw the full force of the principle of natural selection" (*loc. cit.*, p. xvi). Neither of these writings was known to Darwin in 1859.