he emphatically is to vaccination, enforced or voluntary, to interest on money, to all inheritance and testamentary disposition of property. He scorns as utterly uncritical the modern scientific determinations of centres of psychical function in the cortex of the brain—not merely the work of Flourens, but also the later attempts of Broca, Munk, and others; and in this he is not so very far from the general opinion of students of the subject, who have at the most yielded but a hesitant and provisional assent to any one attempt to characterize the distinctive functions of the different regions of the brain. On the other hand, he warmly espouses the old phrenological theories of Gall and the bumps of the travelling lecturers of the forties. These paradoxes are defended by him with all the conviction of his reason, and more. He believes in all that he believes down to the very soles of his boots; and his arguments are mostly so surprisingly strong that some one of his works, say his "Studies, Scientific and Social," ought to be made the basis of a course of lectures on logic. Happy would be the university which should find itself equipped with a professor of logic really capable of dealing with his text.

As to Darwin's encomium, it does not stand alone. John Stuart Mill, Herbert Spencer, Sir Norman Lockyer, Huxley, John Fiske, Chauncey Wright—in short, almost everybody whose judgment concerning the logic of science had any particular value—have ranked Wallace among the past masters in scientific argumentation; yet his narrow training has rendered him an easy mark for whatsoever evil spirit there may be, personal or not, that beguiles men into sophistries, confusions, and rash assumptions, and it perhaps goes far to explain his willingness to serve as an instructor of the public on original lines in such a vast curriculum of subjects. He tells us (ii., 29) that he has "a positive distaste for all forms of anatomical and physiological experiment," and that he never even saw a dissection; nevertheless, biologists attach great weight to his conclusions about the distribution of animals, the classification of the races of mankind, etc. He has to have translations made for him from the German—and Malay, which he speaks fluently, will hardly be reckoned an equivalent; but many a naturalist of good sense would doubly rejoice if he could exchange all his knowledge of German for half of Wallace's acumen in balancing scientific evidences. Wallace is an Oxford D.C.L., as well as an L.L.D.; in this exceptional case the degree of D.C.L. really effected something, namely, it showed exceptional capacity for language. Wallace speaks and writes with ease, and even a university which is above all else orthodox, which would shiver at the bare mention of its words, say his "Studies, Scientific and Social," and, after a year or two of teaching by his father, he went to the public grammar school, where he learned nothing but the nomenclature of geography, chiefly of English towns, and above all the Latin grammar; and this is the only schooling (in the narrow sense) that he ever had. The vestiges of some knowledge of Latin still appear in his sentences, especially in constructions that are bat in a language in which the order of succession of the words is the only clue,* as well as in the frequency of "I and brother William," "I and my wife," "I and Mr. Mitton" (vol. i., pp. 246, 247, 251, 237, 239; ii., 49, 61, 238), though in the accents themselves he says his "brother and me" (i., 256). More than once in this book he deplores an incalculability which he attributes to himself. But, as to this, it is necessary to distinguish between a natural incapacity and early want of facility due to early self-communions not having been such as to exercise one's faculties. We take leave to doubt any lack in him of the faculty itself, for the few facts at our disposal rather point the other way. Thus, his description of his school life shows that he was anything but industrious; yet he gained enough Latin to pick out the sense of the Æneid, and no doubt to parse the sentences. Later he found it "very easy" to learn Malay; and although that language is, as he says, of the simplest construction, especially the dialect of Sumatra, with which he presumably began, yet it may be doubted whether any grown man whose capacity for language was decidedly defective would have been so particularly struck with the facility of the task of learning it. So, during his sojourn in Great Britain, he joined church services; he enlarges upon the beauty of this ancient tongue, which is quite noticeable for its various modifications of its words, and he praises the eloquence of the preacher in a way that implies that he followed the speech, word by word, though it was only a Sunday recreation for him. But the evidence we most rely upon is his own remarkably lucid, easy, and harmonious style of writing; remarkable, we mean, in comparison with the styles of his contemporaries; he never received any instruction in rhetoric. With little opportunity to compare his own

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* For example: "Before leaving Singapore I wrote a long letter to my old fellow-traveller and companion, Henry Walter Bates, then collecting on the upper Amazon, almost wholly devoted to entomology and especially giving an impression of the comparative richness of the two countries. This I fear I followed the speech, word for word, though it was only a Sunday recreation for him. But the evidence we most rely upon is his own remarkably lucid, easy, and harmonious style of writing; remarkable, we mean, in comparison with the styles of his contemporaries; he never received any instruction in rhetoric. With little opportunity to compare his own
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Time being a dead loss, from a monetary point of view. He next desired to go collecting in the Malay Islands, and, after formulating his plans, set sail from Singapore, at the instance of Sir Roderick Murchison, a lawyer who was no ordinary scientist, but a man who had presented him with a first-class ticket overland to Singapore.

Wallace remained in the Malay Archipelago for eight years, studying the living fauna and flora of the forested islands and many smaller ones. He was thirty-one when he went, thirty-nine when he returned. Those years were passed in intellectual solitude. All that time he hardly spoke except in Malay, a language without abstractions, comparatively. His only constant companion was his native pick-up. He spent a few months in a north shore of Borneo. That such a life must bring a great but dangerous education to a young man we may be sure. He came home even more ignorant of how to steer his bark than he went out. He had gone for no better reason than that surveyors commanded high pay; so he joined his eldest brother, who was a surveyor. Alfred took very kindly to this business. The alternation of outdoor and indoor work was greatly to his taste, and the mathematical ingredient attracted him strongly. This is deeply graven on his mind and indoors. The disposition he shows through life to express himself naturally and fluently is that of the naturalist as a professional man, and particularly in the vernacular account of it; and the most minute and tireless study of logic only fortifies this conception. The majority of men commune with themselves in words.

The physicist, however, thinks of experiment, of doing something and awaiting the result. Or the mathematician clothes his thought in mental diagrams, which exhibit regularities and algebra, which just paid the printer, the only return for the toil and toil of years. He had gone for no better reason than that surveyors commanded high pay; so he joined his eldest brother, who was a surveyor. Alfred took very kindly to this business. The alternation of outdoor and indoor work was greatly to his taste, and the mathematical ingredient attracted him strongly. This is deeply graven on his mind and indoors. The disposition he shows through life to express himself naturally and fluently is that of the naturalist as a professional man, and particularly in the vernacular account of it; and the most minute and tireless study of logic only fortifies this conception. The majority of men commune with themselves in words.

The physicist, however, thinks of experiment, of doing something and awaiting the result. Or the mathematician clothes his thought in mental diagrams, which exhibit regularities and analogies of abstract forms almost quite from the first. The physicist would accept the company real perceptions. A person who from childhood has habitually made his reflections by experimenting upon mental diagrams, will ordinarily lack the readiness in conversation that belongs to one who has always thought in words, and will naturally infer that he lacks talent for speech when he only lacks practice.

Another part of Wallace's education that must not be altogether forgotten consisted in his spending nearly a year in a silent and contriving trade, that of the watchmaker and jeweller. But circumstances caused this period of surveying to be short, and then the railway fever rose to such a height that surveyors commanded high pay; so that, though we may be sure that he would not have had the audacity to obtain what some others would, yet in six months he laid up £100. This being increased by a legacy of £50, he was enabled to join his friend, Henry Walter Bates, in a voyage to Pará.

Some years earlier, he had not the common sense to suppose his own book, which was thirty-nine years old, had in hand a great work to the same purpose, he had not the common sense to suppose his own book, and sink it deeper than ever plummet sounded. His conception of Natural Selection (at least, as he now holds it) is superior to Darwin's, in that he maintains that variation in every character of every form is so great in every generation that the vast majority of the young are destroyed without reproducing; so that a new species could be established in a century, if changes in the environment were rapid enough to call for such swift transformation. Of course, such variations exist.

Returning to England, he found he had earned a competence. Let him keep still, leave mankind to shift for itself, and distrust his own potential folly, and a happy life was before him. Also! his ignorance of the world and want of appreciation of that ignorance were such that even long savings were evaporated, and he found himself in the desolate condition of having to live on his pen. Still, even then, he had written that his Socialistic doctrine, which seems to be of a variety peculiar to himself, rests wholly upon a definition of justice as requiring that every child shall have, in every respect, an opportunity precisely equal to every other's. He seems to think it an axiom that such justice ought to be carried out. It is a kind of justice singularly at variance with the dealings of nature and individuals. It could only be remote from viva-voce criticism and discussion that such a proposition could in his mind be metamorphosed from being a thing impossible to believe to being a thing impossible to doubt.

To sum up, this is certainly a very entertaining book, highly instructive in several distinct ways. The volumes are very attractively clothed, and there is an index of near fifty pages.