

of geographical, and especially climatic, control over the distribution of products and the activities of man in making use of them. Thus, the regional division of the world according to climate and vegetation is only briefly, and not completely, referred to. It may be that some geographers have made climatic control a sort of fetish; it should not be that, but it deserves a very important place in the study of commercial geography, and calls for precise expression—as an illustration of this necessity it may be suggested that the statement in the present work that in Australia “wheat is grown up to the 20-in. line of rainfall” misses the real point of the conditions of rainfall which determine the wheat-growing area there. It should be noticed that Mr. Alford Smith inserts tables of statistics, wisely averaged, and among them details at considerable length of several large ports of the United Kingdom.

*Atlas of Japanese Vegetation, with Explanatory Text.* Edited by Prof. M. Miyoshi. (Set xv., 102–107.) (Tokyo: Maruzen Company, Ltd.; London: W. Wesley and Son, 1914.) n.d.

THIS continuation of Prof. Miyoshi's well-known atlas includes six beautiful collotype plates from photographs of the vegetation of the luxuriant mountain forests in the province of Shinano. Nothing could convey a better idea of the wonderfully varied plant communities of Japan than this carefully selected series of photographs with the accompanying descriptions, the latter being in English and in Japanese. From its geographical position, especially its great range in latitude, Japan shows a much more varied flora than any other country of similar area, from the tropical vegetation of Formosa to the alpine floras of the high mountains and the semi-arctic flora of the extreme north. The descriptions, though brief, contain much that is of interest; for instance, we learn that when the curious “luminous moss,” *Schistostega osmundacea*, was discovered in one of the habitats depicted in the atlas, the Japanese Government immediately acceded to Prof. Miyoshi's request that the locality should be made a nature reserve. It is interesting to note that in this series several species of wide range in the temperate regions and familiar members of the British flora are described as growing along with characteristic Japanese flowering plants, the latter including various species well known in Britain as cultivated plants.

*Materials of Machines.* By A. W. Smith. Second edition. Pp. v+215. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1914.) Price 5s. 6d. net.

THIS book furnishes a very elementary treatment of the manufacture and properties of materials used in the construction and operation of machines. In the first part the author deals with fuels, refractory materials, electric furnaces, and the metallurgy of iron, steel, copper, lead, tin, zinc, and aluminium in rather less than ninety

pages of a small book, and remarks in his preface that an understanding of this is essential to the study of the second part, which in 102 pages treats of the testing of materials, the iron-carbon equilibrium, cast iron, wrought iron, steel, its heat treatment, and non-ferrous alloys. The final ten pages are devoted to the selection of materials for the various parts of a steam-engine. Seeing that the metallurgical section of the book deals exclusively with the extraction of the metals named from their ores, and ignores their mechanical treatment, the only connection between parts i. and ii. relates to the metals and alloys, e.g., cast iron and cast steel which are used in the cast state. Considering that the great bulk of the various steels used in machines are “worked,” this omission must be regarded as unfortunate. It is certainly an astonishing thing that the author, who is an American, should apparently not know the modern processes of extracting copper which have been developed entirely in his own country, and should have described a process which originated in Swansea, and has been superseded by them. To describe the metallurgy of copper in fewer than five pages as attempted by the author is a task that few metallurgists would undertake.

*Nerves.* By Dr. D. F. Harris. (Home University Library.) Pp. 256. (London: Williams and Norgate, n.d.) Price 1s. net.

PERHAPS the most difficult field of physiology to reduce to simple form and language, so that it may be understood by the non-scientific laity, is that of the nervous system. Any attempt in this direction, which is accurate, is sure of a welcome. Prof. Harris, in the small volume under review, has certainly succeeded in his attempt to explain in non-technical language the place and powers of the nervous system. He does not deal with the question of the morphology and pure physiology of the cerebrum and spinal cord, nor does he consider psychology—as physiology and psychology have been dealt with already in other volumes of the series. In reality the author deals mainly with the reflex arc and its value to the organism; he also briefly discusses the causes and the value of sleep to the organism, and considers, very shortly, the conditions of “nervousness” and “excitability,” their nature, and the possibility of their prevention.

On the whole the author's statements are extremely clear and trustworthy, although some of his generalisations are apt to be too sweeping. For example, it will not be generally conceded that “the transcendent nonsense of the post-impressionist painters arose from absinthe-poisoned blood” acting on an abnormal nervous system. Nor is the evidence that muscular activity is the result of the propagation of a special form of energy generated from the Nissl granules of the cerebral cells held to be, to say the least of it, convincing. Still the book is interesting and is worthy of its place in the series.