

and nations, movements of population and colonisation, products and means of communication, methods of teaching and general works. These, however, only account for 239 titles; by far the greater part being classed under the continents. Europe is apparently the subject of the greatest amount of geographical work (the entries refer to maps and statistics as well as to written memoirs), Africa comes next, and all the rest of the world is dismissed in the same space as was required for Europe alone. This is perhaps the result of being somewhat more exhaustive in treating the countries of the predominant continent.

The bibliography is well planned, executed with praiseworthy impartiality; but for the language in which it is written it might, so far as a reader can detect, have been compiled in any capital of Europe or America, and considering the keenness of national spirit in many of the articles classified, this is high praise indeed.

Animals at Work and Play; their Activities and Emotions. By C. J. Cornish. With illustrations. Pp. 323. (London: Seeley and Co., Ltd., 1896.)

In a previous little volume Mr. Cornish gave an account of life at the "Zoo," in which he called attention to the tastes and preferences of animals for colour, music, and perfumes. In this volume he deals, for the most part, with some of the general activities and emotions of the every-day life of some mammals and birds. Most of the papers, here collected into a well-illustrated and pleasantly-written volume, have appeared from time to time in the columns of the *Spectator*. They cannot be said to contain much that is new, but many of the facts recorded are placed in a new light. There is a wealth of apt quotation, and, without aiming at technical description, the main facts are well put.

To give the reader an idea of what he may find in this work, we may refer to the chapters on "Animals' beds." More might have been made of this subject; for, without venturing on the somewhat mythical subject of the beds said to be built by the anthropoid apes, the beautiful nests of the field-mouse might, with others omitted, have been alluded to. The "Emotion of grief in animals" is another subject admitting of an expanded treatment; indeed, though the chapters are, from the point of view of a weekly journal, all that could be expected, yet in their new form, and remembering the interest of their themes, most of them might most advantageously have been added to.

The full-page illustrations are good; those from a Japanese source, such as the one with the "social sparrows," are excellent.

Model Drawing and Shading from Casts. By T. C. Barfield. Pp. ix + 92. (London: Chapman and Hall, Ltd., 1896.)

IT is hardly possible to draw accurately what is seen without knowing why the group or scene being delineated presents the appearance it does. This book will give students a clear idea of the field of view, and, by acquiring from it a knowledge of the laws and limitations of vision, they will be able to make model drawings intelligently.

A Short Catechism of Chemistry. Part I. By A. J. Wilcox. Pp. 16. (London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd., 1896.)

THE worst way to teach science is by catechism, for it leads to belief in doctrines on the authority of the book, while experience and demonstration are neglected. For this reason, we think the compiler of these fifty questions and answers would have done chemical science better service if he had refrained from publishing them. The incorrectness of several of the definitions confirms us in this opinion.

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LETTERS TO THE EDITOR.

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The Austro-Hungarian Map of Franz Josef Land.

WITH reference to Prof. Copeland's letter in your last issue, I must say that I am inclined to believe that Austria Sound will eventually be found to be more or less as Payer originally laid it down. I am inclined to this belief because it seems to me almost impossible that the map of the very track he trod should show any great error. Of course, the longitude laid down may well be erroneous—considering the circumstances—and we may expect rectification of this.

But I am not disposed to pass over the description which Payer gave us of Zichy Land with so light a touch as Prof. Copeland. For, however unintentional his error may have been, there can be no doubt that Payer has misled Arctic geographers into supposing that Zichy Land was a large mass of land. And belief in this, derived solely, of course, from Payer's description, induced Jackson to make certain modifications in his equipment and plans, which are naturally unnecessary now that he has proved Payer's description of Zichy Land to be inaccurate.

For Payer wrote thus of Zichy Land in his "New Lands within the Arctic Circle," vol. ii. p. 206.

"My attention was directed chiefly to the southern parts of Zichy Land, which formed a vast mountainous region beyond Markham Sound. Half the horizon was bounded by cliffs and heights gleaming with snow. The conical shape of the mountains prevailed here also; the only exception was Richthofen Spitze, the loftiest summit, perhaps, we had seen in Franz Josef Land, which rose like a slender white pyramid to the height of about 5000 feet."

Now, as every one knows, Jackson has travelled north across the "vast mountainous region" of Zichy Land, and found that all the time he was marching on sea-ice. He camped where Richthofen Peak is marked in Payer's map, and he was *still on sea-ice*. Richthofen Peak consequently disappears; but Jackson, having robbed Richthofen of his peak, has given him a cape (700 feet high) which is very near the site of the vanished peak.

To put it briefly, in fact, Zichy Land turns out to be a chain of small islands, on the west of Austria Sound, and these islands are of no considerable height. Westward of the chain, Jackson has discovered another Austria Sound, but wider and more important, and this he has named "the British Channel"; while to the north of this channel he has discovered a sea which is open both in winter and summer, and which now owns the name of "Queen Victoria Sea." Zichy Land is, in fact, no longer existent as a "vast mountainous region," and in its place we find a few islands, a wide channel, and a permanently open sea. And these, of course, completely alter the complexion of Jackson's work—the first part of which is to explore and map the Franz Josef Land Archipelago.

No doubt, as far as I can gather, has ever been thrown upon Weyprecht's valuable work. Jackson has, of course, not gone near the locality where Weyprecht observed, and consequently the accuracy or inaccuracy of Weyprecht cannot and does not enter into Jackson's map. But, on the other hand, I do not doubt that my absent friend entertains the highest respect for him, seeing that he has given to a bay he has discovered in the west of the archipelago the name of Weyprecht Bay.

ARTHUR MONTEFIORE-BRICE.

157 Strand, London, W.C.

Tournefort and the Latitudinal and Altitudinal Distribution of Plants.

TOURNEFORT has generally had the credit of being the first to indicate a parallelism in the latitudinal and altitudinal distribution of plants; yet it would seem without sufficient ground. Linnæus mentions ("Flora Lapponica," Proleg. n. 14) that certain plants grow on Mount Ararat as well as in Lapland. Later (in 1751), in his "Oratio de Tellure Habitabili" ("Amœnitates Academicæ," ii. p. 447) he distinctly connects Tournefort with latitudinal and altitudinal distribution of plants, and in such a way as to convey the impression that it was