

Already, however, in history for college students—witness Prof. Bury's recent single volume upon Greece—there is a tendency to keep in view the philosophy of the subject as a higher stratum based upon the facts; and something of the kind may be possible in our text-books of science as time goes on. At present one would like to recommend a pupil to read no text-book, but to buy a number of the shilling volumes written by specialists on the lines and subjects that attract themselves. This, however, would not enable the student to meet the requirements of a university degree. Prof. Park is well aware of this, and has kept himself within traditional bounds. At the same time he makes good use of recent work, including even the Piltown skull (p. 480); and his references to New Zealand and the southern hemisphere introduce a welcome series of examples. The illustrations are numerous and well chosen, though those of ammonites lead to the retention of a somewhat old classification. Formulæ might have been more freely utilised to show the composition of the rock-forming minerals, which are here rather loosely described. The absolutely essential boron would then have appeared as a constituent of tourmaline, and the rhombic pyroxenes would not have been defined merely as "variable silicates." "Titanite" (pp. 197 and 198) is not a synonym for the titanite iron-ores. The explanation of technical terms founded on Greek words is a very useful feature throughout the book.

G. A. J. C.

*The West India Committee Map of the West Indies.* Scale 55 miles = 1 in. Size 3 ft. 9 in. by 2 ft. 10 in. (London: George Philip and Son, Ltd., 1914.) Mounted on cloth and varnished with rollers, 10s. 6d.; on sheet, unmounted, 7s. 6d.

THE object of the West India Committee in issuing this map is to stimulate interest in the British West Indies. No attempt has been made to give the land relief and other physiographical features of the individual islands—the relative size of the islands in relation to the parts of the mainland shown making such a course impracticable. Prominence is given to railways, sea routes, cables, and other data of commercial importance. Three inset maps are provided: one shows the routes and distances between Canada and the United States and the West Indies, another a plan of the Panama Canal, and a third a graphic representation of the areas and populations of the islands.

*The Origin of the World.* A Book for Children. By R. McMillan. Pp. xiii + 136. (London: Watts and Co., 1914.) Price 2s. net.

THE object of this little book is to explain, in language simple enough for an intelligent child to understand, the steps in the evolution of our planet, of plant and animal life, and of the human race. The book is written in a pleasant style which should appeal to young readers, arrest their attention, and engender a desire for fuller knowledge.

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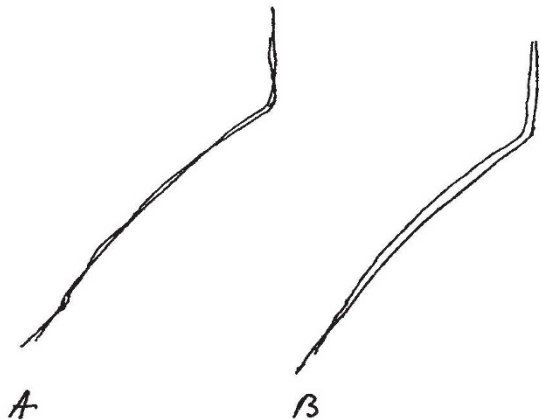
### LETTERS TO THE EDITOR.

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#### Temperature-Difference between the Up and Down Traces of Sounding-Balloon Diagrams.

DR. VAN BEMMEL'S letter in NATURE of May 14 is of great interest to me, and seems to prove an appreciable amount of lag in the instruments he uses. Every thermometer must as a matter of course have a certain amount of lag, but I have not been able in the records of the English instruments to detect any sign of it, although there is a marked distinction between records obtained at night or when the sun is low, and those obtained when it is high.

In the diagram, A is the ordinary type of a night ascent, B that of a day ascent. The double trace, one made on the ascent, the other on the descent, is apparent in about every record obtained. It is not often apparent to the naked eye, and hence the diagram is an exaggerated one, but under the microscope by means of which the records are read, the traces in type A can be seen to cross each other here



and there, in type B, on the other hand, the traces are distinct throughout, but the distance between them is plainly variable, ranging often from about 1° to about 3° C. It is very seldom that differences so large as 4° C. are found. In three cases out of four type A will occur at night, and type B when the sun's altitude exceeds 10°, but now and then type B occurs at night, and seems then to indicate an actual change of temperature during the ascent.

In the English instruments the thermograph depends on the temperature of a very thin strip of German silver; this is kept stretched by a small invar tube. The expansion of the invar is nil, and therefore its temperature is of no consequence; the German silver is 0.03 mm. thick, and exposed on both sides to the air current. It is therefore very sensitive as a thermometer; certainly much more so than the Bourdon tube or ordinary metal couple.

I have always accepted the Continental records made in the winter as being free from any systematic error, but have long felt that their summer ascents show temperatures that are persistently too high.

The policy of making all ascents at a fixed time, 7 a.m. G.M.T., seems to me a most unfortunate one