

metalliferous, and the southern and littoral provinces agricultural. The latter term must, however, be accepted with some qualification, inasmuch as the cereals hitherto produced have been very scanty, and to this day the Republic is an importer of flour. In truth, the natural pasture is so abundant, and alfalfa or lucerne thrives so luxuriantly, that stock-farming is practised almost to the exclusion of all other branches of agriculture.

Major Rickard remarks that mining in La Plata is at once in its infancy and in its old age. An instance of this anomalous state of things may be seen in Mendoza, where the ancient silver mines, El Rosario and San Rinaldo, which were discovered as early as 1638, are again in active operation. The old miners dealt merely or chiefly with what Spaniards term "warm metals" (*metales calidos*), that is, those which could be reduced directly by means of mercury, and this, therefore, left for a later generation the "cold metal" (*metal frio*) which required for its reduction the process of smelting. Silver mines are not by any means confined to the province of Mendoza. In San Juan (where civil war and revolution have long been fatal barriers to all industrial progress) the district of Tontal, on the slopes of the great Andine range, is peculiarly rich in argentiferous lodes; ordinary samples from the Mine Señor containing not less than 160 ounces to the ton, and first class samples yielding 400 ounces. But, in the opinion of Major Rickard, the silver mines of Famatina, in the more northerly province of La Rioja, are the richest in the whole country. That the difficulties in working them are formidable may be gathered from the fact that some are situated 13,000 feet above the sea-level, and that the whole district is deficient in fuel of any sort, and exposed during three months of the year to a rainfall so heavy as to compel the miners to suspend their labours. In the province of Catamarca copper is the predominant metal, and in union with it an appreciable percentage of gold and silver has been found. During the year 1868 the Restauradora mine produced 2,639 tons of ore, containing by assay 506 tons of fine copper; but it must be remembered that the prevailing systems of smelting are by no means perfect.

More than one auriferous district exists within the limits of the Republic, and those which are respectively named Gualilan and Guachi (from *Gua*, which in the Huerpe tongue signifies gold) have for many years enjoyed considerable celebrity. Both of them largely enriched their first workers, and there can be little doubt that thousands of tons of ore still exist in the old workings which have been abandoned, partly from natural difficulties, but principally from the want of skilled labour.

As to the other productions of the Republic, it is impossible in this brief notice of a copious volume to do more than mention them by name. Mendoza and San Juan possess silver-lead mines of considerable extent; and in the former province petroleum springs have been recently discovered. In Santiago del Estero large tracts of land are covered with indigenous indigo; rice and tobacco are cultivated in Tucuman, and in the most northerly provinces of Salta and Jujuy are thriving plantations of coffee.

After making every allowance for Major Rickard's natural enthusiasm, it must be admitted that the country

whose resources he has so minutely described, offers many and great inducements to the British emigrant to give it a fair trial. President Sarmiento desires especially to attract a further immigration of our fellow countrymen, for he infers from the success they have already achieved in the cultivation of the Pampas, that their energy and enterprise will be invaluable in developing the mineral resources of the Republic, and that Anglo-Saxon coolness and perseverance will form a favourable counterpoise to the opposite characteristics of the Hispano-American race.

C. J. ROBINSON

OUR BOOK SHELF

An Elementary Course of Hydrostatics and Sound. By Richard Wormell, M.A., B.Sc. Fcap. 8vo, pp. viii. and 146. (London: Groombridge and Sons, 1870.)

THIS little book is "designed for the use of schools, colleges, and candidates for University and other examinations." In such a work it would of course be out of the question to look for novelty of matter: by the nature of the case, to praise the author's originality would be to cast a doubt on his accuracy; and, while inaccuracy would be inexcusable, no merit can be claimed for its opposite. Hence, in trying to form an estimate of a book like this, we are inevitably led to consider whether the subjects treated are arranged in a simple and natural order; whether the exposition of principles is clear and logical, the really fundamental matters being kept constantly and prominently before the student's mind, and special consequences and applications grouped about them in such a manner as to show distinctly their mutual connection and dependence: whether, in short, the book is scientific in treatment as well as in subject. We are sorry to say that, in these respects, our judgment of the work before us is by no means favourable. We should expect a student, instead of acquiring from it ideas which are capable of growth and expansion within his own mind, and being led towards the conception of the organic connection of all scientific truth, to conclude that science—or at least hydrostatics and acoustics—consists of a series of propositions which it is his duty to "get up" and write out on the first opportunity in answer to examination-questions. The least satisfactory parts of the book are the explanatory and descriptive portions, and especially the twenty-two pages at the end devoted to sound. The author says in the preface that "the whole contains all that is required on these subjects [hydrostatics and sound] for the B.A. and B.Sc. degrees of the University of London." If this is true as regards the latter subject, it is more to the discredit of the University than to the credit of his book.

Studien über das Central Nerven-System der Wirbelthiere. Von Dr. Ludwig Stieda, Prosector in Dorpat. (London: Williams & Norgate.)

DR. LUDWIG STIEDA is already well-known for his admirable papers on the central nervous system of osseous fishes, birds, and some mammals. The present work embraces a description of the central nervous system of the frog, rabbit, dog, cat, mole, and mouse; an account of the course of the fibres in the spinal cord of Vertebrata generally; a comparison of the brain of the various classes of Vertebrata with that of man, and finally, a comparison of the cerebral with the spinal nerves. Of the description of the brain and spinal cord of the several mammals mentioned above we need say nothing here, except to remark that the account is full and carefully drawn up; the minutest structure of the several parts being given as well as their coarser anatomical features. In regard to the brain of the frog, the parts of which have received such different names, Dr. Stieda gives the following description of the organ as it appears when