

THURSDAY, JANUARY 28, 1875

*THE MARQUIS OF SALISBURY ON
SCIENTIFIC EDUCATION*

THE scientific world is much indebted to the Marquis of Salisbury for the clear and powerful speech on the value of scientific education which he delivered in Manchester on Friday last. It is a satisfactory sign of the times when a statesman of his position and intellectual standing acknowledges the claims of science to a place in the higher education of the country equal to that of the older studies. Whilst adverting to the great strides which had been made respecting the elementary education of the country, Lord Salisbury does not forget that "the true key to the education of the lower classes is a love of knowledge on the part of the classes that are above them;" and he goes on to point out that in the district in which he was speaking, the secondary, and especially adult education, was well provided for. He passed a well-deserved encomium on the Owens College. Although the general instruction of the adult population by means of evening classes does not form the primary work of a College such as Owens, yet, placed as it is in the midst of a dense and busy population, it has found that there is much good work to be done in this direction.

In this service there can be no rivalry between Owens College and other institutions of a similar character; each has its own sphere, and, indeed, the truth is that if in large cities evening classes are to be of essential service, they must not be confined to one institution. For not only must the focus of instruction be near the men who are wearied with a hard day's work, but a different style of tuition naturally grows up in the various centres; one may, by natural selection, adopt one branch, and another another. Such a course is indeed the healthy development of a living organism which suits its growth to the conditions of its environment; and whilst it strengthens itself by so doing, it affords at the same time grateful sustenance and solace to those dwelling under its shadow. One of the great problems of the age, upon the successful solution of which much of our social and material prosperity depends, is indicated by the Marquis when he tells us that the truths of science should permeate the whole mass of the people. Evening classes such as we have referred to form one of the modes by which this may be accomplished. Another means of awakening the scientific interest of the people is by a widespread series of thoroughly trustworthy popular science lectures. Manchester has for some years taken a prominent position in this latter respect, and has been followed in this direction by the Gilchrist Trustees, who have established similar courses in the metropolis; whilst Liverpool, Glasgow, and other towns have recently determined to follow the same lead. The main object of such lectures is to interest more than to instruct, and we require, besides them, the general establishment of regular classes in which the subjects are thoroughly taught. Such classes are indeed established throughout the length and breadth of the country, thanks to the operations of the South Kensington Staff; and it is difficult to over-estimate the value of the scientific haul which year by year this

network thrown from the metropolis gathers up. From the satisfactory and rapid growth of this system of science teaching, the time must necessarily arrive when the central agency should not be confined to the metropolis alone, but should be supplemented by local centres, each of which would probably be more conversant with the special wants of its district than the metropolitan institution could possibly be.

Good as all such evening and adult science instruction may be, its prosperity must depend on the existence and healthy growth of a higher class of teaching, such as that afforded by the various universities and colleges throughout the country. It is their problem to teach the teachers, and it is in the carrying out of this great task that Governmental assistance is imperatively required. By this assistance, however, we do not mean that institutions are to be at once artificially created; such a thing is just as impossible as to bring a full-grown man into the world at once, without his passing through all the stages of childhood. Each higher school will naturally select, if properly fostered, its own special direction of development, and it is absurd to suggest any operation by which such a natural growth should be cut down, like a Dutch garden, in order to improve its form.

We have left untouched the question of the endowment of research; but it is obvious that to endow the unremunerative manufacture of knowledge is more important than to endow teaching which is always more or less remunerative.

SOUTH AMERICAN TRAVEL

Travels in South America, from the Pacific Ocean to the Atlantic Ocean. By Paul Marcoy. Illustrated by 525 engravings and ten maps. Two vols. (London: Blackie and Son, 1875.)

The Amazon and Madeira Rivers: Sketches and Descriptions from the Note-book of an Explorer. By Franz Keller, Engineer. With sixty-eight illustrations on wood. (London: Chapman and Hall, 1874.)

Two Years in Peru, with Exploration of its Antiquities. By T. J. Hutchinson, M.A.I. With map and numerous illustrations. Two vols. (London: Sampson Low, 1873.)

WE notice these three works together, because to a considerable extent the first-mentioned embraces the ground gone over by the other two. Like Mr. Hutchinson, M. Marcoy devotes considerable space to the prehistoric antiquities and native populations of Peru, and, like Mr. Keller, the French traveller has much to say on the hydrography of the Amazon, on its fauna and flora, and on some of the numerous tribes that people the region contained within its vast basin. Of the three writers, M. Marcoy alone can be called a professional traveller,—at least, he appears as such in the present narrative; while Messrs. Keller and Hutchinson only took advantage of their vocation calling them to South America, to investigate what interested them in the particular regions which they visited. It is very gratifying to find men who do not profess to devote their lives to the advancement of scientific knowledge, so willing and competent as this engineer and this consul are to add to its sum. The number of such unprofessional—if we may so call them—advancers of scientific knowledge has in recent