

practice—scientific knowledge and common sense—contrasted as antagonistic. A strange error! For science is eminently practical, and must be so, as she sees and knows what she is doing; while mere common practice is condemned to work in the dark—applying natural ingenuity to unknown powers to obtain a known result. Far be it from me to undervalue the creative power of genius, or to teach shrewd common sense as worthless without knowledge. But nobody will tell me that the same genius would not take an incomparable higher flight, if supported with all the means which knowledge can impart—or that common sense does not become, in fact, only truly powerful when in possession of the materials upon which judgment is to be exercised. The study of the laws by which the Almighty governs the universe is, therefore, our bounden duty. Of these laws, our great academies and seats of education have, rather arbitrarily, selected only two spheres or groups (as I may call them) as essential parts of our national education—the laws which regulate quantities and proportions, which form the subject of mathematics, and the laws regulating the expression of our thoughts through the medium of language—that is to say, grammar, which finds its purest expression in the classical languages. These laws are most important branches of knowledge—their study trains and elevates the mind. But they are not the only ones: there are others which we cannot disregard—which we cannot do without. There are, for instance, the laws governing the human mind and its relation to the Divine Spirit—the subject of logic and metaphysics. There are those which govern our bodily nature and its connection with the soul—the subject of physiology and psychology. More which govern human society and the relations between man and man—the subjects of politics, jurisprudence, political economy, and many others. While of the laws just mentioned, some have been recognised as essentials of education in different institutions; and some will, in the course of time, more fully assert their right to recognition. The laws regulating matter and form are those which will constitute the chief objects of your pursuits; and as the principle of sub-division of labour is the one most congenial to our age, I would advise you to keep to this specially, and to follow, with undivided attention, chiefly the sciences of mechanics, physics, and chemistry, and the fine arts in painting, sculpture, and architecture. You will thus have conferred an inestimable boon upon your country, and in a short time have the satisfaction of witnessing the beneficial results upon our national powers of production. Other parts of the country will, I doubt not, emulate your example; and I live in hopes that all these institutions will, some day, find a central point of union, and thus complete their national organization. Thanking you once more for having allowed me to assist at the foundation of your Institution, I wish it growth, vigour, and prosperity, with all my heart." His Royal Highness resumed his seat amid enthusiastic cheering.

THE CENTURY TREES OF CALIFORNIA.

A grove of immensely large trees has been recently discovered in California, in comparison with which, it is said, the largest trees in the old world are only like stunted shrubs. One of them is described as being 350 feet high and 107 feet in circumference. Several of them have been cut down, partly from curiosity; but the American press calls upon Congress to protect them from wanton destruction. The *New York Herald*, in speaking of them, says:—"These California monsters are, we doubt not, of the same genus, though perhaps not of the exact species, of the ancient cedars of Lebanon. The California grove is in about the same latitude, the same altitude (4,500 feet above the sea), and has the same climate as those mighty forests of the mountains of Lebanon, from which King Hiram supplied the timber for the building of Solomon's Temple. Of these Lebanon forests, only some half-dozen gnarled and shattered relics now remain near the summit of the lofty range; while in California we have a grove of the most magnificent specimens, coeval with Solomon and David. There they have stood, and have continued to grow, while kingdoms, empires, and dynasties have risen and disappeared; and there they stand, the living patriarchs of three thousand years! To these venerable giants, upon a basis of seventy years, the discovery of America was but an affair of yesterday, and the birth of our Saviour an incident of some forty years ago!"

CASTLE OF BALMORAL.

When His Royal Highness Prince Albert became proprietor of the estate of Balmoral, it was found that the old castle did not afford sufficient accommodation for the Royal Family during their autumnal visit to Scotland. His Royal Highness then resolved to erect a new and commodious building at his own expense, which has been in progress for about three years, and, although it is not yet finished, the royal apartments have been completed so as to admit of there being occupied during the present season.

The new castle stands on the same level as the old residence, but is nearer to the margin of the Dee, which here in a semi-circle sweeps the base of the mountain range of Craig-en-Gowen, and forms a large peninsula, the plateau of which affords the most perfect privacy for the retirement of the royal family. The green terrace within this bend of the river, though only about 10 feet above the rise of the water, is composed of light gravelly soil, so porous and dry that but little drainage was needed to insure a healthy atmosphere; and, constituting, as it does the highest table-land in Scotland, surrounded by magnificent screens of fir and heath-clad granite, the royal residence is all that could be desired for an autumnal dwelling.

The building is of the Scotch baronial style of architecture, modified in some of its details, so as to combine the more bold and prominent features of the ancient stronghold with the more domestic character of modern civilization. The design consists of two separate blocks of buildings connected by wings, at the east angle of which the massive tower, 35 feet square, rises to the height of 80 feet, and is surmounted by a turret with a circular staircase, rising to the height of 100 feet from the level of the ground. From the summit of this tower the mountain scenery will be seen to great advantage, and the view will be one of the most picturesque which the Grampian range affords.

The royal department of the building occupies three sides of a quadrangle, facing the south, the north, and the west. The entrance porch is on the south side, where the architecture is of the simplest and plainest description, while that of the west and north presents carved corbellings, rope, ribbands, and other mouldings, characteristic features of the baronial style. The stones are from a granite quarry on the property, remarkably pure, and, smoothly dressed ashlar work, the Castle, at a distance, looks as if it had been hewn out of one of the huge granite rocks which here and there, in this part of Scotland, stand like solitary giants in the plains.

Entering by the main porch, the hall opens to the corridor, which runs along the centre of the building, from which the grand staircase conducts to the royal private apartments on the first floor; the dining room and the drawing room, with the billiard room and library, occupy the ground floor, and are spacious and most commodious apartments. The private rooms of the Queen front the west, and look up the valley of the Dee on the wild pass of Invercauld with its overhanging cliffs, and the Craig-en-Gowen mountains in the distance. The apartments of his Royal Highness Prince Albert look to the south, where the lawn stretches out to the foot of Craig-en-Gowen, and commands an extensive view of the deer forest of Ballochbrine; while the Prince of Wales's rooms, on the north side, look on a scene in which the pastoral and the romantic are richly blended. The whole of this portion of the Castle is fire proof, on the plan of Fox and Barret, and well lighted with the purest plate glass.

The furnishings of the Royal apartments are of the plainest and most substantial character. All the appointments are distinguished by that simplicity of style and purity of taste for which the Royal family are so remarkable. The carpets are of clan tartan, which is the prevailing pattern of the drawing room fashion, and, wherever an ornament is necessary to round off an angle or soften a projection, the flower of the Scotch thistle is used. The furniture is of African ash, a kind of wood resembling American maple, and everywhere presenting the same characteristics of usefulness which the furnishings exhibit throughout.

To the north and east of the Royal apartments stand the offices, which form three sides of the square, a spacious court occupying the centre, and separating the inferior buildings, which are attached to the eastern wing. In the tower there will be accommodation for some of the suite, and the servants' apartments are so arranged that they will have every comfort that can be required, the whole being calculated to accommodate from 100 to 120 persons. There is a ball-room 68 feet by 25, but, for the present, the suite and servants will have to reside in the old castle, which is to remain entire until the new residence is finished, and then it is to be demolished, to open up the lawn, and permit the ground to be laid out and improved.

The plans of the buildings are by Mr. William Smith, architect of Aberdeen, carried out under the superintendence of Mr. Alexander Clark. The building has been under the care of an intelligent mason, Mr. Beaton, and the furnishings are by Messrs. James Allen and Sons, Queen's upholsterers in Aberdeen.

Since the last visit of the Queen, many improvements have been carried out on the estate of Dr. Robertson, the intelligent and obliging commissioner of his Royal Highness Prince Albert. New roads have been opened, and it is intended to divert the road south of the Dee, so as to cross over the river by a substantial stone bridge and conduct to the north road, which again joins the south road at the bridges at Invercauld. By this deviation of a few miles the royal domain immediately contiguous to Balmoral will be made more secluded, but the house and grounds will be fully exposed to the public on the north road, as before. The expense of this deviation is to be borne by Prince