

contact with the remains of the handiwork of the ancient inhabitants of Scotland, to enter into the spirit of that peculiar and interesting people, which has always attracted the attention and touched the hearts of men accessible to the influence of heroic poetry. The Spalding Club, founded in this city for the preservation of the historical and literary remains of the north-eastern counties of Scotland, is honourably known by its important publications.

Gentlemen,—This is the 29th anniversary of the foundation of this Association, and well may we look back with satisfaction to its operation and achievements throughout the time of its existence. When on the 27th September, 1831, the meeting of the Yorkshire Philosophical Society took place at York, in the theatre of the Yorkshire Museum, under the Presidency of the late Earl Fitzwilliam, then Viscount Milton, the Rev. W. Vernon Harcourt eloquently set forth the plan for the formation of a British Association for the Promotion of Science, which he showed to have become a want of his country. The most ardent supporter of his resolution could not have anticipated that it would start into life full-grown as it were—enter at once upon its career of usefulness, and pursue it without deviation from the original design, triumphing over the oppositions which it had to encounter, in common with every thing that is new and claims to be useful. Gentlemen, this proved that the want was a real and not an imaginary one, and that the mode in which it was intended to supply that want was based upon a just appreciation of unalterable truths. Mr. Vernon Harcourt, summed up the desiderata in graphic words which have almost identically been retained as the exposition of the objects of the Society, printed at the head of the annually-appearing volume of its transactions. "To give a stronger impulse and more systematic direction to scientific inquiry; to promote the intercourse of those who cultivate science in different parts of the empire with one another and with foreign philosophers, and to obtain a more general attention to the objects of science and a removal of any disadvantages of a public kind which impede its progress." To define the nature of science, to give an exact and complete definition of what that science, to whose service the Association is devoted, means has, as it naturally must at all times, occupied the metaphysician. He has answered the question in various ways, more or less satisfactorily to himself or others. To me science in its most general and comprehensive acceptation means the knowledge of what I know—the consciousness of human knowledge. Hence to know is the object of all science, and all special knowledge, if brought to our consciousness in its separate distinctiveness from, and yet in its recognized relation to, the totality of our knowledge, is scientific knowledge. We require, then, for science—that is to say for the acquisition of scientific knowledge—these two activities of our mind which are necessary for the acquisition of any knowledge, analysis and synthesis. The first to dissect and reduce into its component parts the object to be investigated, and to render an accurate account to ourselves of the nature and qualities of these parts by observation; the second, to recombine the observed and understood parts into a unity in our consciousness exactly answering to the object of our investigation. The labours of the man of science are therefore at once the most humble and the loftiest which man can undertake. He only does what every little child does from its first awakening into life, and must do every moment of its existence; and yet he aims at the gradual approximation to Divine truth itself. If then there exists no difference between the work of the

man of science and that of the merest child, what constitutes the distinction? Merely the conscious self-determination. The child observes what accident brings before it, and unconsciously forms its notion of it. The so-called practical man observes what his especial work forces upon him, and he forms his notions upon it with reference to this particular work. The man of science observes what he intends to observe, and knows why he intends it. The value which the peculiar object has in his eyes is not determined by accident, nor by an external cause, such as the mere connection with work to be performed, but by the place which he knows this object to hold in the general universe of knowledge by the relation which it bears to the other parts of that general knowledge. (Applause.) To arrange and classify that universe of knowledge becomes, therefore, the first and perhaps the most important object and duty of science. It is only when brought into a system by separating the incongruous, and combining those elements in which we have been enabled to discover the internal connection which the Almighty has implanted in them, that we can hope to grapple with the boundlessness of His creation, and with the laws which govern both mind and matter. The operation of science, then, has been systematically to divide human knowledge, and raise, as it were, the separate groups of subjects for scientific consideration into different and distinct sciences. The tendency to create new sciences is peculiarly apparent in our present age, and is perhaps inseparable from so rapid a progress as we have seen in our days, for the acquaintance with and mastering of distinct branches of knowledge enables the eye from the newly-gained points of sight, to see the new ramifications into which they divide themselves in strict consecutiveness and with logical necessity. But, in thus gaining new centres of light from which to direct our researches, and new and powerful means of adding to its ever-increasing treasures, science approaches no nearer to the limits of its range, although travelling further and further from its original point of departure—for God's world is infinite—and the boundlessness of the universe, whose confines appear ever to retreat before our finite minds, strikes us no less with awe when, prying into the starry crowd of heaven, we find new worlds revealed to us by every increase of power in the telescope, than when the microscope discloses to us in a drop of water or an atom of dust new worlds of life and animation, or the remains of such as have passed away. Whilst the tendency to push systematic investigation in every direction enables the individual mind of man to bear on the specialities of his study, and enables a greater number of labourers to take part in the universal work, it may be feared that that consciousness of its unity which must pervade the whole of science, if it is not to lose its last and highest point of sight, may suffer. It has occasionally been given to rare intellects, and the highest genius to follow the various sciences in their divergent roads, and yet to preserve that point of sight from which alone their totality can be contemplated and directed. Yet how rare is the appearance of such gifted intellects, and, if they be found at intervals, they remain still single individuals with all the imperfections of human nature. The only mode of supplying with any certainty this want is to be sought in the combination of men of science representing all the specialities, and working together for the common object of preserving that unity and presiding over that general direction. This has been to some extent done in many countries by the establishment of academies embracing the whole range of the sciences,

whether physical or metaphysical, historical or political. In the absence of such an institution in this country all lovers of science must rejoice in the extent and activity of this Association, which embraces in its sphere of action, if not the whole range of the sciences, yet a very large and important section of them—those known as the inductive sciences, excluding all that are not approached by the inductive method of investigation. It has for instance—and, considering its peculiar organization and mode of action, perhaps not unwisely—eliminated from its consideration and discussions those which come under the description of moral and political sciences. This has not been done from undervaluing their importance and denying their sacred right to the special attention of mankind, but from a desire to deal with those subjects only which can be reduced to positive proof and do not rest on opinion or faith. The subjects of the moral and political sciences involve not only opinions but feelings; and their discussion frequently rouses passions, for feelings are "subjective," as the German metaphysician has it—they are inseparable from the individual being—an attack upon them is felt as one upon the person itself; while facts are "objective," and belong to every body; they remain the same facts at all times and under all circumstances; they can be proved—they have to be proved, and, when proved, are finally settled. It is with facts only that the Association deals. There may for a time exist differences of opinion on these also, but the process of removing them and resolving them into agreement is a different one from that in the moral and political sciences. These are generally approached by the deductive process; but, if the reasoning be ever so acute and logically correct, and the point of departure which may be arbitrarily selected is disputed, no agreement is possible: whilst we proceed here by the inductive process, taking nothing on trust—nothing for granted—but reasoning upwards from the meanest fact established, and making every step sure before going one beyond it, like the engineer in his approaches to a fortress. We thus gain ultimately a roadway—a ladder by which even a child may, almost without knowing it, ascend to the summit of truth, and obtain that immensely wide and extensive view which is spread below the feet of the astonished beholder. This road has been shown us by the great Bacon; and who can contemplate the prospects which it opens without almost falling into a trance similar to that in which he allowed his imagination to wander over future ages of discovery? From among the political sciences it has been attempted in modern times to detach one which admits of being severed from individual political opinions, and of being reduced to abstract laws derived from well-authenticated facts—I mean political economy, based on general statistics. A new association has recently been formed, imitating our perambulating habits, and striving to comprehend in its investigations and discussions even a still more extended range of subjects in what is called "social science." These efforts deserve our warmest approbation and good-will. May they succeed in obtaining a purely and strictly scientific character. Our Association has since its meeting at Dublin recognized the growing claims of political economy to scientific brotherhood, and admitted it into its statistical section. It could not have done so under abler guidance and happier auspices than the presidency of the Archbishop of Dublin, Dr. Whately, whose efforts in this direction are so universally appreciated; but even in this section, and whilst statistics alone were treated in it, the Association, as far back as 1833, made it a rule that, in order