VOL. VIII]

[PART II.

PROCEEDINGS
OF THE
YORKSHIRE
GEOLOGICAL AND POLYTECHNIC SOCIETY.

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EDITED BY JAMES W. DAVIS, F.S.A., F.G.S., &c.  
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1883.

ADDRESS ON THE CONNECTION BETWEEN GEOLOGY AND ARCH-
ÆOLOGY. BY THE REV. W. C. LUKIS, M.A., F.S.A.

WE are met together to welcome a society whose noble President is in a far distant land, occupying the highest post of distinction and trust that can be conferred by Her Majesty upon one of her subjects. The citizens of Ripon, and residents in the neighbourhood, rejoice to see him discharging the responsible duties of his high Vice-regal office with that energy and unremitting attention to public business, which are a strongly marked feature in his character; but if any one has reason to regret that his Lordship is in India, and not in this room to-day, it is myself.

Between forty and fifty years ago I spent a most enjoyable day in an aquatic excursion from Cambridge down the sedgy river Cam as far as Ely, in company with four gentlemen, whose names probably not one person in this room is ignorant of, and with one or more of whom some here present have had intimate personal acquaintance. With that too-short day my geological study, practically applied, may be said to have begun and ended. These four gentlemen were Professors Sedgwick, Phillips, Henslow, and Ansted. It was a day of my Cambridge life which I have always cherished in memory.

Your accomplished Secretary, Mr. James W. Davis, has written an exceedingly interesting biographical notice of Professor Phillips, who, for the long period of thirty years was so actively engaged in investigating Yorkshire rocks, and in giving lectures in the county, that he might almost be claimed as a fellow-countryman of yours; which notice has been printed in Vol. VIII., of the Society's *Proceedings*. In it he remarks:—"My recollection is very fresh of his kind "and genial face, his winning and encouraging smile, the ever-ready "and wise words with which he brightened and enlivened the most "perplexing question, and the deep knowledge and great experience "which lay below and prompted all his observations." These remarks are especially applicable to Professor Sedgwick, who, being a Yorkshireman by birth, possessed in a remarkable degree the faculty of attracting the admiration, and retaining the affectionate respect of all the members of the University, old and young. If his features were somewhat rugged, his eloquence and animation in public lecturing, and in social converse, were most pleasing, and his soul overflowed with so much wit and humour that he was a most agreeable and fascinating companion. But over and above these attractive qualities, he was an earnest and sincere believer in the Great and Almighty Architect of the Universe, and, when lecturing, was always careful to impress upon the minds of the young students of science that no geological discoveries would ever be found to conflict with the truth of the Sacred History.

The title of the Institution, which we have the honour to welcome to this city, would seem to imply, upon the face of it, that its sphere of inquiry is limited to the geology of Yorkshire, and to those natural formations which, by the application of machinery and other appliances are rendered beneficial to mankind.

I propose to point out in very few words in my brief address, that this would be a too-narrow view, and in what manner archæology is connected with it. If the researches of the society's members were confined to the field of geology and mechanical science alone, however important to the community at large, and interesting to many, they might prove, they would not satisfy and interest everybody. All of us are not geologists, nor are we all

absorbed in matters relating to practical engineering; and those among us who reside on the extreme eastern verge of the Riding, far removed from the great centres of mineral wealth and industrial activity, cannot be expected to take the most lively pleasure in viewing and considering the consecutive order, the dip, the contortions and the faults of strata; in discoveries of new coal and iron-stone beds, and lead veins; or in new and ingenious mechanical contrivances for extracting minerals from the earth, and making them fit for man's use.

But under the further title of Polytechnic, much is included that might be thought, and perhaps has been thought, outside the society's field of operations, and awakens the interest of non-geologists. Archæology, *e.g.* in many of its bearings is so interwoven with, or rather dovetailed into geology, mineralogy, and the arts and sciences, that it cannot be entirely excluded, and the society has wisely opened its portals to it. It is true that in its origin the Institution was founded for the purpose of directing the studies of its members to those subjects which have special reference to the geology and industries of the West-Riding of Yorkshire, and for many years this object was kept steadily in view, but after a while one member, and then another, without protest from the governing body, gave papers on British, Roman, and other remains, not found in the county, some of which papers bore in no sense upon the geology and industries of the Riding. I confess I was one of the culprits in 1869, at which period an unusual number of alien subjects were introduced, and no doubt I was one of the main causes of a desire on the part of the Council, in 1872, to restore the society to what was conceived to be its original legitimate work.

I have said above that there are questions relating to manufacturers and industry generally, which, being archæological, are not unworthy of the society's recognition or inconsistent with its aim. The tools and weapons of the primitive inhabitants of Yorkshire, and the materials with which they have been formed; the clothing which covered the people, whether manufactured out of woollen stuff or leather; the art of the primeval potter; the implements employed in agricultural and mining purposes; what

grain and fruits of the earth were cultivated; what animals were bred; what were the horse trappings and chariots; what the design, materials, and fabrication of personal ornaments; of what kind were their dwelling-houses and fortresses; and even the materials and construction of their coffins—all these matters, which belong to the domain of archæology, are yet legitimate branches of scientific study which no Polytechnic Society can fairly exclude, for in tracing out the development of industry no hard and fast line could be drawn beyond which research would be unnecessary and uninteresting, not to say unattractive to some among us.

These remarks will also apply to the Roman, Saxon, Danish, and Norman occupation of Yorkshire, and to the influences which the productions of these invading races have exercised upon the modern industries of the county, and of the country generally. There is no doubt that each of these peoples have left some traces of their skill and ingenuity in manufacture among the subjugated and oft-times cruelly oppressed inhabitants, of which we are reaping the benefit now; and if it had not been for archæological researches, and the publication of those researches, many amongst us would never have known to what extent we are indebted to them for much that we may have vauntingly and in our ignorance taken credit to ourselves for having originated. The explorations of antiquarians have been instrumental, not only in bringing to light numerous articles of various kinds which for honest purity of materials, elegance of form and design, and excellence of workmanship cannot be excelled in the present day, but which on being reproduced by our manufacturers have found a ready sale, because the public eye has been captivated, and public taste educated. Thus, moderns have imitated the works of the ancients, by doing which, they have to some extent confessed their own inferiority; and this has been the humbling but beneficial result of archæological investigation.