

THURSDAY, SEPTEMBER 7, 1871

THE IRON AND STEEL INSTITUTE

AFTER having on so many different occasions dwelt upon the importance and advantages to be derived from the cultivation of Science by those engaged in the industrial undertakings of this country, we cannot do otherwise than refer in terms of deep interest to a meeting, which took place during the past week at Dudley, under the presidency of Mr. Bessemer, in the heart of the oldest iron-making district of Great Britain.

About three or four years ago a few gentlemen in Cleveland, the youngest seat of the iron trade in the world, propounded the idea that it would be beneficial to all concerned to organise an association of those interested in the manufacture of iron and steel, to meet and discuss all matters connected with these branches of metallurgical science, but from which all questions of a merely trade character should be carefully excluded.

To dispel any idea of this Iron and Steel Institute, as it is designated, being intended by its original promoters to be confined to their own locality, they solicited and obtained the consent of the Duke of Devonshire to act as their first President. Looking at his Grace's position as one largely interested, but in an entirely different district, in the manufacture this body was intended to foster, and having regard to the literary and scientific attainments of this distinguished nobleman, a more judicious selection could not have been made.

From the day of the first introduction of this association to the public to the present, we find an unflinching interest has been maintained in the papers submitted at the gatherings, and in the discussions which have followed their reading. As a natural consequence we are glad to find that among its 450 members is included almost every name of note in this very important branch of our national industry.

We know of no manufacturing operation requiring for successful enterprise a more extensive acquaintance with scientific truth than that of the iron-smelter and its associated branches. His work is conducted in apparatus of a very costly and gigantic character, and under circumstances which render experimental research very difficult; while, on the other hand, its prosecution upon a commensurate footing is attended with so much expense as to render failure almost ruin.

It unfortunately happens also, that the pursuit of pure scientific inquiry connected with the subject is impeded by obstacles of no ordinary character. A blast furnace containing twenty or thirty thousand cubic feet of space and filled with nearly 1,000 tons of materials, chiefly in a state of intense ignition, is not a field to which the chemical philosopher can, without considerable preparation, transfer his labours. From the crucible of the laboratory to such an enormous and almost inaccessible mass, the focus of very intricate and violent chemical action, is too great a step to be made by the chemist for a few hours with any chance of success; for the very questions in which the iron-master would desire his assistance are the results of anterior circumstances, which themselves must

be well known to him who attempts to explain their consequences.

On the Continent—in France, in Belgium, in Germany, in Sweden—there are to be found men of great reputation who have identified themselves with this union of science with art, because in these countries are to be found educational establishments so located as to afford the professors who fill the respective chairs abundant opportunity of making themselves personally acquainted with the action of the iron furnace, and, indeed, with every step in this and in other branches of manufacture.

We can adduce no better proof of the real value of the labours of the Iron and Steel Institute than the estimation in which they are held by some of the Continental professors, two of whom we noticed were present at the meeting to which we have alluded.

In our own country, without saying to whom the blame, if any, belongs, men of science and men of industrial occupation have not been brought sufficiently together. As a rule our schools of science are remote from the scenes where science is practically applied. In consequence our professors are, perhaps, less familiar with and less interested in, pursuits, which, in the eyes of a Lieben or Louvain teacher of metallurgy, possess sufficient attraction to induce him to undertake a long journey to be present at a meeting, or to study the operations of our own iron makers, rarely or never visited by the learned of their own nation.

It is this reflection, perhaps, more than any other, which has induced us to notice so favourably the proposition to found in the centre of a great mining and manufacturing district the proposed College of Physical Science at Newcastle-on-Tyne. We regard it as a desideratum no less important to the philosopher than to those who may seek for instruction within its walls, for it is one which will afford to him who has to instruct ample opportunity of studying the application of those great and important truths which it is his office to teach.

We cannot conclude this brief notice without heartily commending the spirit in which the members of the Iron and Steel Institute, throwing aside all narrow-minded prejudice and jealousy, communicate to each other the result of their own individual research, and make known for the use of all the progress each has effected in his own sphere. It seems to us that everyone is acting under the feeling that, on giving information, he is in reality promoting his own advancement. However this may be, society at large, not the least interested in their progress, cannot fail to profit by assistance thus rendered and received, and therefore we most cordially wish all prosperity to the Iron and Steel Institute.

INSTRUCTION TO SCIENCE TEACHERS AT SOUTH KENSINGTON

DURING the months of June and July, a number of science teachers from various parts of England, Scotland, and Ireland, were assembled in London, for the purpose of attending special classes, arranged for their instruction under the auspices of the Science and Art Department. We propose to give some account of the course of instruction in the principles of Biology, which was directed by Prof. Huxley, to whose suggestion, we believe, liberally accepted by Mr. Forster and acted upon