

teaching, and a much-needed stimulus thereby given to learning in the Universities.

The remarks of Lord Salisbury on the question of research are quite as liberal as those on the questions of general education of the University. "The only point," he says, "in the connection to which I wish to call attention is that referring to research. We are of opinion that the mere duty of communicating knowledge to others does not fulfil all the functions of a University, and that the best Universities in former times have been those in which the instructors, in addition to imparting learning, were engaged in adding new stores to the already acquired accumulation of knowledge."

How best can research be combined with teaching? It will probably be found advisable to relieve from all teaching some of the professors who belong to the highest grade, and who have shown their capability for research; but we do not believe that this principle can with any advantage be generally adopted in the case of young and untried men. It would appear to be far safer to give opportunities of research by not demanding too much teaching work. With a large staff of lecturers it would not be necessary to demand from each more than two terms' teaching in the year. With only two terms' work and the remainder of the year free, ample time would be given for a teacher, not only to keep up with the progress of his subject, but also himself to advance it; but this point might be left for further consideration and experience.

The research we are anxious for is not confined to the natural sciences, but embraces all branches of learning, and we cannot better explain our view in this matter than by again quoting a passage from Lord Salisbury's speech. "What I am particularly anxious for," he says, "is that all branches of culture should have equal encouragement, and should be regarded not as rivals but as allies in the great and difficult task of cultivating and developing the human mind."

#### SCIENCE AND ART IN IRELAND

THE Royal Dublin Society held a special meeting on Thursday, March 2, to consider the Report of the Council on Lord Sandon's letter. In the absence of his Grace the Duke of Leinster, the President of the Society, the chair was taken by Sir George Hodson, Bart., one of the Vice-Presidents. Dr. Steele read the Report of Council, which concluded with a recommendation that the Society should sanction the Council's sending a deputation to London to press the following points upon her Majesty's Government:—

1. An assurance that the library, and the collections in the museums, shall be maintained in Dublin for the use of the public.
2. That ample accommodation shall be secured for the members of the Society for the purposes of their meetings, for their reading rooms, and for their officers; the whole being maintained for the Society, and under its own control.
3. That a suitable apartment as a reading room in connection with the library shall be provided for the exclusive use of the members of the Society.
4. That the members shall have the privilege, under reasonable restrictions and conditions, of borrowing books out of the library.
5. That the Agricultural Department shall be compensated by an equivalent for any space of which it may be deprived.
6. That the laboratory, with the services of an analyst, shall be preserved as heretofore for the purposes of the Society.
7. That the services of the present officers of the Society shall be retained; or the salaries and emoluments which they now enjoy secured to them.

8. That, as heretofore, an adequate staff shall be maintained for the purposes of the Society, or an equivalent grant to enable it to provide itself with the same.

9. That the members shall have free access to the new Institution at all times that such is open (whether by payment or otherwise) to the public.

That as some equivalent for the property surrendered, and as a compensation for a possible falling off in the income of the Society, an annual sum be granted to enable it to continue its several works of utility.

Mr. Ferguson moved a resolution in the following terms: "By reason of the very recent date of Lord Sandon's letter (Feb. 9, 1876) relative to the establishing in Dublin of a 'Science and Art Museum,' and the consequent short period the Council of the Society have had to make the Report thereon as this day laid before the Society, it is desirable that the consideration of the Council's Report be now adjourned till this day four weeks, for the purpose of enabling the Council to lay before the members of the Society such necessary information as will enable due and proper action to be taken on the several matters therein." This resolution was at once seconded by Dr. O'Donovan, and the necessity of adjourning was urged by several members to whom the leading facts in reference to the Society's relation to the Government, as stated in the Council's Report, appeared quite new. Dr. E. P. Wright said that the mover and seconder of the resolution asked for more light; to him it appeared as if the light they already had had dazzled them. Let the terms of the minute of the Science and Art Department of Sept. 21, 1865, be remembered, and how could the Society indulge in the illusion that the so-called Departments of the Society belonged to it otherwise than as in trust for the public? As to representing that the Government were not fully aware of the position of affairs, was it not a fact that the Chancellor of the Exchequer, Lord Sandon, and Mr. W. H. Smith had within the last few months personally inspected all the arrangements of the Society for themselves? and did anyone present doubt that Sir M. H. Beach had not a perfect knowledge of the Society's wants and merits? and then there had been a Parliamentary inquiry in 1864 and a Royal Commission in 1868. Why then waste time in asking for more information? Lord Sandon's letter was clear and explicit. Why not boldly face the inevitable, and see in the proposed scheme a means of having in Dublin what all desired, a National Library and a Museum of Science and Art? Several of the points asked by the Council it seemed probable would be yielded by the Government; but he appealed to those who had the true interests of their country at heart to support and co-operate with the Government in this matter, and not to treat them as Greeks, though bringing gifts. As the feeling of the meeting seemed to be in favour of having the Council's Report *in extenso* before them, he would move as an amendment: "That Lord Sandon's letter and the Report of the Council just read be printed and circulated among the members; and that this meeting do adjourn until this day fortnight—then to consider the same." This amendment was seconded by Lord Powerscourt, but on being put was negatived, whereon the original resolution was put from the chair and declared duly carried. It was further resolved that the Council should send a deputation to London to obtain such additional information as they could as to the intentions of the Government.

At a special meeting of the Royal Irish Academy, held on Monday last, the following amendments were adopted by a large majority:—

1. That the Royal Irish Academy being desirous of co-operating with her Majesty's Government in the measures necessary for the establishment of a National Science and Art Museum in Dublin, provided that the independence and usefulness of the Academy be not injuriously affected by such measures, is willing to consent to the

transfer of its antiquarian collections commonly known as its Museum, to the Government upon the conditions—

*a.* That the arrangement of the Museum, as well as the purchase of additions, shall continue to be conducted by the Academy; and that adequate provision shall be made for the continued acquisition of Irish antiquities which may hereafter be discovered or offered for sale.

*b.* That the Museum of the Academy, together with such other Irish antiquities as may be added to it, shall be for ever kept apart from other collections, and be permanently maintained as a Museum of our National Antiquities, no portion of its contents being ever removed from the City of Dublin, unless by permission given under the seal of the Academy.

*c.* That the Academy shall be accountable, as at present, to her Majesty's Treasury, through the Irish Government, for all sums voted by Parliament, and shall not be subject, in the conduct of its affairs or the expenditure of its grants, to any control on the part of the Science and Art Department, or any of its officers.

2. That, considering the position which the Academy has long held, and will continue to hold, as the first scientific, literary, and antiquarian Society of the country, the proportional representation proposed to be given to it on the Board of Visitors (sect. 12 of Lord Sandon's letter), is altogether inadequate; and the Academy further think that no paid official of the Science and Art Department should be eligible to act as a representative on the Board.

3. That there should be provided in the yearly estimates, as laid before Parliament, instead of the several sums now annually voted, a sum at least equal to what is at present voted, to enable the Academy to discharge more completely its functions as a scientific, literary, and antiquarian body, by making grants in aid of original research, by publishing the results of such research, by maintaining a library specially adapted to assist learned investigation, and by editing and printing ancient Irish texts, &c.

#### SCIENTIFIC INSTRUCTION AND THE ADVANCEMENT OF SCIENCE.

ON Wednesday and Thursday last week two separate deputations from the Council of the British Association waited respectively on Mr. Cross and the Lord President of the Council, the Duke of Richmond and Gordon, both introduced by Dr. Lyon Playfair, and headed by the president of the Association, Sir John Hawkshaw. The object of the deputations was to induce the Government to adopt certain recommendations of the Royal Commission on Scientific Instruction and the Advancement of Science.

Dr. Playfair said there were three points in the Reports of the Science Commission to which they desire to direct attention—namely, the recommendations as (1) the study of science in elementary and endowed schools, (2) the endowment of research, (3) the administration by a Minister of Science and Art.

Sir John Hawkshaw said that the matters which they that day desired to mention were chiefly treated in the Fifth and Eighth Reports. He read a memorandum on these points approved by those he represented. This document set forth that the Government possessed, through the elementary schools and through the authorities charged with framing schemes for endowed schools, the machinery for insuring scientific teaching. The public schools will follow the Universities; the Universities in England and Scotland are about to be the subjects of inquiry by Commissions, and science ought to be adequately represented on these Commissions. University College and King's College, London, Owens College, Manchester, and Trinity, Dublin, would require special consideration, and if further pecuniary assistance were granted them by

Government, guarantees should be taken for the further encouragement of scientific teaching. Direct endowments of research must be approached with caution. There would be no objection to the course of liberally endowing professorships in the several Universities, combining the duty of original research with a moderate amount of teaching to be attached to the professorship; an extension of the principle involved in the grant to the Royal Society might be advantageously resorted to, and the grant might be gradually increased. The Lord President of the Council was practically entrusted with the functions of a Minister of Education, responsible to Parliament; and it therefore seemed to follow that he should be made the responsible administrative head of the business connected with scientific institutions which receive their support from public grants, with the allocation of funds for scientific purposes, as well as of the business relating to the promotion of scientific instruction, as these matters all form an essential part of public education in science. Sir John Hawkshaw would only add to the document that it would be of great advantage if the State would establish, say, a laboratory for chemical science, and an observatory for physical investigations.

Prof. A. W. Williamson, Prof. Roscoe, Mr. Spottiswoode, Dr. De La Rue, and others spoke in support of the deputation's object, with which Mr. Cross said he sympathised very much indeed.

The Duke of Richmond and Gordon said the Government were well aware of the great importance of scientific education. With regard to the Reports of the Science Commission, he thought Lord Salisbury was now acting upon the Third Report, in respect to Oxford and Cambridge. It seemed to him that the endowment of professorships had not been altogether satisfactory so far as it had been tried. With regard to the Government grant to the Royal Society, that was a grant, not an endowment for those who work, but, as he understood it, a provision of apparatus. The sum of money was so expended. It was not an endowment of research. With regard to establishing physical observatories, the Government had taken action in the work connected with astronomical physics which Mr. Norman Lockyer was now carrying on, or beginning to carry on at South Kensington. With regard to the laboratories for chemistry and physics which Mr. De La Rue alluded to, it seemed to him they could not very well do more in that direction till they had the report of the Commission which was to inquire into the Universities' scheme proposed by Lord Salisbury. He concluded by assuring the deputation that the Government were quite alive to the great importance of the subject.

#### PHYSICAL SCIENCE IN SCHOOLS

I CONFESS I did not understand Dr. Watts's letter quite as Prof. Roscoe has done. But that is of little importance. Prof. Roscoe has opened wider questions as regards the position of Physical Science at Schools, and I should be glad of the opportunity, if you can spare me the space, of writing a little more at length on this matter, and, if possible, of thereby arriving at a distinct understanding what it is that the thorough-going advocates of science, like Prof. Roscoe, want. His letter is a good hearty grumble at things in general, and a good grumble from him wakes people up, and does us all good; but we want to know what specific changes he wants, and who is to make them. "Regulations" and "Examinations" and the "position accorded to science in schools," and the "discouragement to the teaching of science," want of "efficient means of teaching science," "difficulty of obtaining masters," are all in turn mentioned as obstacles. Some of these arise from one cause, some from another, and before any improvement can be effected, we must analyse the position of science at schools, see what