

THURSDAY, NOVEMBER 17, 1887.

“M.P., P.R.S.”

THE combination of vigorous intellect, profound knowledge, and scrupulous integrity, is not so common among our legislators, that a good citizen, whatever his political convictions, can have any feeling *but* one of satisfaction at the entrance into the House of Commons of the new member designate for the University of Cambridge. Prof. Stokes's foes (if indeed he have any foes), no less than his friends, will concur in attributing these qualifications to him. No man in the scientific world is, or deserves to be, more respected or more popular.

In that world many will doubtless find an additional source of congratulation in this public recognition of the merits of their colleague by the dominant political party in the University of Cambridge. And many will probably entertain the hope that the addition of another man of science to the three or four who already occupy seats in the House of Commons may do something towards the enlightenment and guidance of the House and of the Government when scientific questions come under discussion.

In the minds of thoughtful men more or less familiar with the realities of political and official life, however, it is probable that reflections of a less satisfactory nature may arise. They may regret that faculties which are so eminently fitted to serve science should inevitably be devoted to the interests of a party. Inevitably, because, with whatever high resolves the nominee of the Conservatives of Cambridge enters Parliament, he will find before he has been there a week that he is expected to do what the Whips bid him to do. And again they may think, not unreasonably, that Science is every day becoming more and more able to look after her own interests; and that for her own honour and dignity it is better that they should be neglected than that they should be promoted by back-stairs agencies. Moreover, they may remember that the deliberate judgment of scientific men upon any question in which State intervention is called for may be widely different from the view taken by this or that member of their body who happens to have a seat in Parliament; and that it is extremely undesirable that less legitimate methods of influencing a Minister should be substituted for the present fair and open mode of placing a case before him by responsible and authorized deputations.

But, whatever doubts may be entertained as to the service which has been or can be rendered to science by scientific members of Parliament, it is obviously within the right of every man to judge for himself whether he will do so or not. So far as Prof. Stokes is simply a very distinguished mathematician and physicist, it is for him, and him alone, to decide between the claims of science on the one hand and those of political and ecclesiastical conviction on the other.

But, at the present moment, Prof. Stokes is something more than an eminent investigator and teacher: he is President of the Royal Society; and, as such, enjoys all the prestige which is given by the fact that in the eye of

the public he has the oldest, the strongest, and the most widely representative body of men of science in the country at his back. The President is the organ and mouth-piece of the Council of the Royal Society—a body which has frequent and important relations with the Government; and, as such, it may often be his business to represent to the Government the conclusions at which the Council arrives. It is therefore highly important that the freedom of the President's intercourse with Ministers should be in no way trammelled by his political relations.

It may be quite safely affirmed that Prof. Stokes's political and ecclesiastical views were not taken into consideration by those who placed him in the chair of the Royal Society. The last half-dozen of his predecessors, to go no further back, have sedulously abstained during their occupancy of the chair from holding office in any other Society, or taking part in any public, and especially political, action about which the opinions of the Fellows could be divided. Prof. Stokes has not followed this prudent example. Some little time ago he accepted the Presidency of a body of pronounced theological tendencies; and he now accepts the nomination of a no less pronounced political party, and has issued an address in which he promises to devote himself to certain party objects.

It does not appear that Prof. Stokes has obtained or sought the sanction of the Council or of the Society at large for this departure from precedent. For such it is, in spite of the fact that Sir Isaac Newton was a member of Parliament during his Presidency, and that many peers have occupied the chair. But it is obvious that a peer need not be a party politician; and, as regards the precedent of Sir Isaac Newton, it is enough to point out that the House of Commons of the end of the nineteenth century is a very different body from the House of Commons of the beginning of the eighteenth century. The position of an independent member has become impossible; and those who refer to Prof. Stokes's address will see that, whatever his first feelings may have been, he, now at any rate, does not propose to be anything but a staunch Conservative.

No doubt there are many staunch Conservatives in the Royal Society, but no doubt also there are many equally staunch Liberals and Radicals; and if it had entered into the imagination of the latter that Prof. Stokes would carry the prestige of the Presidency into the service of their political opponents, it may be doubted whether they would have voted for him. The same argument would apply with equal force if Prof. Stokes happened to be a Liberal. The question before us is not one of party, but of principle.

We are in the midst of a great political struggle, and it may be safely predicted that the force of party feeling will increase rather than diminish for years to come. If it is permissible that the President of the Royal Society may be a political personage, the minds of the Fellows on St. Andrew's Day will be divided between two sets of considerations. Not only will each ask, “Is A.B. the best man for the Presidency in the interests of science and of the Society?” which is the only question he ought to put; but he will ask, “Is A.B. of my politics, or the opposite?”

It is eminently true of political passion that a "little leaven leaveneth the whole lump"; once inoculate the Royal Society with that virus, and the poison will spread through the whole organism. The Council practically chooses the President: it will therefore be necessary to look to the politics of the Councillors. The Fellows elect the Council: have a care, therefore, to the politics of the new Fellows. We may yet see a politico-scientific caucus. Some years ago a most sagacious and experienced man of affairs in the United States was asked why, in drawing up the constitution of a new University, he had not given such persons as the Governor and Chief Justice of the State an *ex-officio* position on the governing body. "Ah," said he, with a shrewd smile, "if you only knew the trouble my colleagues and I have taken to render it impossible for any political person to have anything whatever to do with the administration of the University! We know to our cost that wherever politics enters corruption follows."

The records of the Royal Society tell us of more than two centuries of scientific life, fertile in good work and unstained by anything worse than an occasional outbreak of prejudice or jealousy. The only occasion on which it ever manifested a political bias was in the case of Priestley; and it has no reason to be proud of that episode.

The Society is now at the parting of the ways. Either it will continue its beneficent work for untold ages to come, untroubled by the transitory political and social storms raging around it; or, headed by politicians pledged to serve their party, it will gradually be dragged down into that miserable slough in which no capacity seems a guarantee against sophistical special pleading and no character strong enough to escape degrading subserviency to party exigencies.

The occasion is grave and demands action. It is for the President, by the course which he may think fit to adopt, to determine what that action shall be.

#### THE STORAGE OF ELECTRICAL ENERGY.

*The Storage of Electrical Energy.* By Gaston Planté.  
(London: Whittaker, 1887.)

TO the author of this book we owe the use of lead plates instead of platinum plates in voltameters. His experiments showed that, after repeated charging and discharging of lead-plate voltameters, accumulators of energy were producible which might be employed in a great variety of useful ways. He showed that his accumulators might be charged in parallel by a few Bunsen or Daniell cells, and discharged in series. As his accumulators had small internal resistances, he was able to give to circuits either of small or great resistance very considerable supplies of electric power for short times, and as an experimenter he availed himself of this novel power in heating wires, melting beads of metal, and generally of observing effects produced by strong currents.

Many of the phenomena observed by him were new, and well worthy of being recorded, as they were recorded, in the proceedings of scientific Societies; and the present book, in addition to a fine portrait of the author, and many other engravings, and a dedication to the Emperor

of Brazil, seems to be merely a collection of these papers of M. Planté, published between the years 1859 and 1879. In the first chapter of the book and part of the second we find an interesting account of experiments with various electrodes in voltameters, which led the author to use lead instead of platinum, and of the forms which the author gave to his cells, with directions for their formation, and speculations as to the chemical actions involved. The remaining twelve and a half chapters may be regarded as almost solely devoted to the "effects created by currents combining quantity with high tension"—to use the old-fashioned phraseology which Mr. Elwell, the translator, has thought fit to use upon the title-page—and to the author's speculations upon things in general.

The infancy of the electric accumulator lasted to 1879, its boyhood to 1883, and we may now be said to know it in its manhood. The advance since 1879, not only in our knowledge of the chemical and electrical actions going on in the accumulator, but also in our methods of applying this knowledge, has been quite as wonderful as the advance made in any other part of applied physics. Batteries of accumulators capable of driving boats 80 feet long, of driving numbers of tram-cars, of maintaining large installations of electric lights, are now in actual use. Plates of lead are now used as in 1879, but the salts of lead in contact with the metallic plates are attached mechanically, hundreds of devices having been tried and rejected or adopted in the last eight years for the purpose of obtaining great capacity and longevity. Of these great changes, the results of numerous, most costly, and carefully conducted experiments, made by scientific men, M. Planté tells us nothing. He was in charge of the accumulator in its infancy; it was taken away from him in 1879, and its subsequent history seems to be as unknown to him as the boyhood and early manhood of Harry Bertram were to Dominie Sampson.

The dominie looked upon his pupil, now grown to be a man, as if he were still a boy who was about to resume his childish studies, and in the same way it is probable that M. Planté regards the accumulator of 1887 as in no respect different from the laboratory toy with which he obtained such remarkable effects prior to 1879. M. Planté gives in this book what may be regarded as the history of the infancy of the electric accumulator; and it is obvious that if he had written it as charmingly as Mrs. Molesworth herself could have written it for the nursery, yet, with the misleading title which it possesses, he has given occasion to the ordinary reader to feel greatly disappointed. We are here assuming that M. Planté shares with Mr. Elwell the responsibility of publication, and also of change in the name of the book from that of the first edition—"Recherches sur l'Électricité"—published in 1879, which is the only French edition with which we are acquainted.

The technical terms used by the translator are not now so familiar to students as they used to be in the good old times when *strength*, *intensity*, *quantity*, and *power* of a current were synonymous with each other or with electromotive force.

It was this freedom in "the older electricity" which enabled statements like "The E.M.F. was thus found equal to 1.41, the current from the Bunsen cell being 1" (p. 17) to be enjoyed by readers. Other statements like