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*"To the solid ground
Of Nature trusts the mind which builds for aye."*—WORDSWORTH

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THE GOVERNMENT OF THE ROYAL SOCIETY

WE have so often maintained in these columns that Science cannot now be propelled on its onward course by the efforts of unassisted individuals only, and that the State must itself, sooner or later, put its shoulder vigorously to the wheel, that there is some danger lest we should be thought to undervalue the force of private enterprise. We, on the contrary, attach very high importance to such enterprise, which exists amongst us in England more abundantly than perhaps in any other country in the world. It exists in two forms—in that of detached individual effort, and in that of voluntarily associated bodies, the Scientific Societies. To the latter only we propose now to address ourselves.

The services that have been rendered to science by these societies infinitely surpass in kind and in amount all that has been done by means of all other agencies. By bringing together men struggling for the same goal, though often by different routes, by submitting to the arbitrament of open discussion opposite views relating to the same subject, by publishing theoretical speculations however divergent, and experimental results however discordant, and by rewarding pre-eminent services, the truth has the fairest possible chance of being elicited, and the non-scientific classes become the recipients—though often the unconscious, and therefore ungrateful, recipients—of benefits, material as well as intellectual, immeasurable in value. Sweep away what has been done for Science in England by Scientific Societies, and scarcely a trace of Science would remain. For it must not be forgotten that individual labourers, working in however isolated a manner, are largely indebted to the stores of knowledge garnered in the Proceedings of the Societies, for the very tools with which they operate.

Such being the vast importance of these bodies, their constitution and system of internal government are questions of the highest interest. We propose to confine our remarks on the present occasion to the Royal Society, the highest of all, and that which should be the pattern to all others.

In former days, election to the Royal Society was an easier matter than it is now. At present, personages of Royal blood and peers of the Realm alone have special facilities for admission. The ordinary candidates are submitted to an ordeal of considerable stringency. Virtually they are elected, though nominally only selected, by the Council, whose decisions, however, are almost invariably ratified by the Society at large. The claims to admission of each candidate are carefully and fully discussed in Council, and fifteen only are nominated by ballot each year. The number of candidates is usually about fifty. Though the Council's list of fifteen does not always give universal satisfaction, yet it must be allowed that names rarely, if ever, appear on that list whose bearers cannot point to actual scientific work performed by themselves. Such a thing as the election of a thoroughly unscientific or unintellectual man is unknown in the present day. It follows that the standard of mental power to which the Fellows of the Royal Society must, as a body, have attained, is very high. It may, indeed, be safely asserted that no corporation in the kingdom, or even in the world, can be for a moment compared for mental power with the Royal Society. So much, in briefest terms, for its constitution.

The system of internal government by which the affairs of a body like this are regulated becomes a matter of the deepest moment, not only to the Society, but to the nation and to civilisation itself.

The governing body, the Council, is composed of a President, five Vice-presidents, and twelve ordinary members. These are all honorary posts. Two ordinary Secretaries and one Foreign Secretary, members of the Council with votes, are paid, the first two 300*l.*, and the last 100*l.* per annum, out of the funds of the Society. There is also a Treasurer, a member of Council, but unpaid. An Assistant Secretary and a Librarian, not members of the Council, and of course both salaried, perform all the necessary routine duties.

The Vice-presidents and ordinary members of Council sit two years only, and then retire by rotation. They cannot be re-elected until a year has elapsed since their retirement. The Presidentship is not limited as to duration, nor are the posts of Secretary, Foreign Secretary, and Treasurer.

There is a wide-spread feeling that this form of government admits of improvement, and as the actual occupants of the posts in which an alteration is thought desirable stand deservedly very high in the estimation, not of the scientific world only, but in that of the community generally, the reform of which we are about to speak can fortunately now be discussed without personality, and without any fear of the acrimony to which, under less auspicious circumstances, such a discussion would inevitably lead.

The proposed alterations are of the very simplest kind, namely, that the tenure of office of the President should coincide with that of the rest of the Council, and that the Secretaries and Foreign Secretaries should be unpaid.

The inconveniences of the present arrangement, on which our space only admits of a few words, are, first, that however efficient, impartial, and undespotic the President and officers may be, their permanent tenure of their posts for a number of years in succession must tend to constitute them, in a Council undergoing yearly change, more or less an *imperium in imperio*. Indeed, their very efficiency and mastery of rule and precedent, in themselves most valuable attributes, aggravate, as well as generate, this tendency. The practical effect necessarily is, that the President and officers naturally and unavoidably get into the way of acting together, and of bringing before the Council matters for deliberation in somewhat of a cut and dried condition. At the opening of the Session, the new members, it is well known, are naturally diffident of expressing views adverse to those thus prepared for their acceptance by such experienced hands; and it is a common remark that it is only in his second year that a member serving on the Council for the first time usually declares his sentiments with independence and freedom. The choice, therefore, seems to lie between the experience which results from long service in the chair and secretariat, and the greater scope for deliberative activity, which limited service in those posts would afford.

In deciding between the two alternatives, the character of the Council must be considered. It contains a small selected section drawn from a large highly select body, the very *crème de la crème* of the science and intellect of the kingdom, men who, one and all, are supposed to have gained their position by the most severe intellectual discipline, and who value that position as one of great responsibility and high honour. If chance, or favouritism, or money, or rank, had any appreciable influence on their election, the case would be very different. Some dry nursing might then be not amiss. But in the actual case, a Council composed of the flower of English intellect may safely be left to deliberate with unfettered republican freedom.

Another inconvenience attending the permanent, or rather unlimited, Presidentship, is one which may be indicated without in the slightest degree applying it to the present distinguished occupant of the chair, namely, the extreme difficulty, without causing a scandal, of removing an inefficient or undesirable President.

A third inconvenience consists in the tendency towards an unduly Conservative policy, which a permanent President is liable to betray; and a fourth disadvantage is, that the particular department of Science to which the President is devoted is apt to be kept too continuously prominent. These tendencies are opposed to the vigor-

ous progress and the wide expansion of scientific thought which it is the purpose of the Royal Society to foster.

We have but lightly touched upon the salient features of the question, which is one admitting of a vast variety of opinions, some of which, we trust, will be elicited by our remarks, for the appearance of which in these columns we feel that no apology is necessary.*

THE GEOLOGY OF THE DIAMOND FIELDS OF SOUTH AFRICA

IN the September number of the *Cape Monthly Magazine* is an interesting article on the above subject, by Dr. John Shaw, Gold Medallist in Geology at Glasgow University, from which we have made the following extracts:—

"In February 1869, I published a paper in the *Grahamstown Journal* on the geological structure of the Vaal Region along the line where diamonds were found. This was chiefly intended as a reply to Mr. Gregory's denial of the veritability of the discovery of diamonds on various grounds, mainly geological and mineralogical, after a journey of exploration in the region.

"Since that time the finds of surface diamonds have increased, the stretch of country supposed to be diamondiferous has extended, and, at the present time, systematic digging and washing for diamonds are being carried on with an enthusiasm which success alone can have created, by upwards of 1,000 white men in different parts of the Vaal Region, but principally at Klipdrift, near Poreil.

"In July of this year I made considerable observations in the Vaal Valley, which show that the rocks are chiefly trappean, metamorphic, and conglomerate in character. I detected no pure granite formation, but syenite is, however, developed extensively, and seems to be the base of the whole system of rocks at Klipdrift. A very singular rock appears in the shape of isolated boulders on the summits of the Kopjes, and especially of the celebrated Old Kopje. This I take to be graphic granite (binary granite), or what Dana would call 'granilite,' consisting solely of quartz and large crystals of felspar.

"Above the syenite is a trap conglomerate in some places, in others are amygdaloids, and protruding through these again, basalt, assuming everywhere the hexagonal structure, and arising in some places into insulated and compacted columns.

"In some of the Kopjes there are remains of stratified rocks—clay schists, sandstone, chalk (or something very like it), which are evidently the last vestiges of a vast series of sedimentary strata, which formerly covered the whole present contour, but which have gradually given way to denudation and cataclysm.

"Such is the character of the present rock system at Klipdrift, and with a few additions (mainly supercumbent) of the whole rock series of the Vaal region.

"On the summits of the Kopjes, and as a matter of course, in the crevices between the basaltic boulders, is an alluvial gravel. In this are found the diamonds, and on the surface some have been found, indicators of the wealth beneath. The pebbles of sandstone, quartzite,

* The foregoing article, received from a valued contributor, is of so much importance that we have given it this prominence without committing ourselves to an approval of the precise course proposed; we rather invite discussion.—E.D.