

**Science without a head; or, the Royal Society dissected / By One of the 687
F.R.S.---sss [i.e. A.B. Granville].**

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SCIENCE
WITHOUT A HEAD;
OR,
THE ROYAL SOCIETY DISSECTED.

BY
ONE OF THE 687 F.R.S.---sss.

A. B. GRANVILLE

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PUBLIC EXPOSTULATION.

To read the various books that have been lately published on the State of the Royal Society, and the pamphlets, and the articles of Reviews, and the paragraphs of newspapers, and the dark insinuations, and the anonymous epistles of the F.R.S—sss who have so often thrust their importance on the public within the last few months; one would imagine that a total eclipse of that great sun of English science, that a complete state of darkness, earthquakes and convulsions are about to visit this devoted country. The mighty astrologers have consulted their stars from their convenient observatories; they have cast the awful horoscope; raised their stentorian voice and warned their co-fellows of their impending fate. We are threatened with total extermination or, to say the least, with abject humiliation.

Now all this noise, these unquiet wranglings, and find-faulting quarrels are good for nothing. They are excited to answer selfish purposes perfectly distinct from and not likely to benefit the interest of science, which the astrologers pretend to be on the decline and setting fast in England. These “noisy ones” offer, in their own persons, a palpable contradiction to their assertion. We know full well that the author of a recent book on the “Decline of Science in England,” and that of another still more recent production remarkable for

sundry charges brought against scientific men, are individuals whose talents and recorded exertions in behalf of English science gainsay their querulous lays against it—nor are we less certain that a few at least, of the inditers of violent as well as moderate letters anonymously inserted in the public journals on this subject, might be quoted as examples of doctrines the reverse of those which they are straining their throats to preach to the world. How then are such paradoxes to be explained? The problem will be solved in the present Expostulation.

There is, however, another precious production, on the same side of the argument, which demands a separate notice in this place, and that a brief and a final one. The question of the decline of English science has been taken up as the subject of a leading article by that superannuated good old dame the Quarterly, whose attacks are real caresses, and whose encomiums damn for ever the character of an author—by the same superannuated dame who urged onward the wretched and imbecile Polignac in his career of folly with her approbation of measures, for the advocating of which the toothless lady would have risked her skin had she dared to recommend them at home—by the same superannuated dame, in fine, who having predicted to political fools the success of measures which failed as soon as predicted, immediately sent forth a second *diatribe* against the wise and the *prudent* (there is the rub) of another country, to prove that though success had not, it ought still to have followed the measures of the Carlists. The leading article of the old lady (who is “sun-burnt and not worth the splinter of a lance”), in which she has undertaken to exhibit, in all its glaring deformities, our wretched condition as a scientific nation, is remarkable (no new feature truly in the Quarterly) for the total absence of all information on the subject under consideration, for the ignorance it betrays, or the suppression

it is guilty of, of many facts which tell cruelly against her proposition, and for sundry misrepresentations. In it the writer, after quoting the opinions of three or four modern authors, which appear to be unanimous against English science, proceeds to assume as well-established, the fact that the Arts and Sciences in England are fast declining; but he has not brought forward the smallest evidence in support of his assumption. Although he flounders about, first in the North and then in the South of the civilized world, beginning *ab ovo*, and telling us how Ptolemy first and Napoleon last, protected and held in veneration scientific men; he fails to shew that every where but in this country is science deemed worthy of consideration. The most ludicrous part of the argument, however, in this article (the author of which is wholly unknown to me,) is the mode he has adopted of illustrating his assertions. Let us, says he, take a view of the state of Science on the Continent, and more particularly in France, where, thanks to the Institute, Science is in the most flourishing condition. Who would not have expected, after such a declaration from this learned Theban, some masterly *exposé* or summary of the actually existing state as well as progressive march of several branches of scientific knowledge in that country, and other civilized parts of Europe—in order to contrast the result with those observed at home? And most natural would such an expectation have been in every respect; since it is impossible to judge of the decline of any branch of human knowledge in one country without contrasting it with the superiority and advancement of the same in other countries. But is such a contrast to consist in the greater number of rent rolls, and aristocratic parchments which the scientific men of one country can produce over those of the same class of enlightened people in another country? Or should not the contrast rather lie between the *quantum* of real scientific skill, permanent or progres-

sive, exhibited by the contrasted nations? Yet the former being, out of the two, the only absurd mode of establishing a comparison in such an important question, is, by that fatality which has of late years condemned this unfortunate Journal to become the repository of all kind of trash, precisely that which the Reviewer has adopted. Hence, in considering the "state of Science in France," as he is pleased to call it, the sagacious writer is totally silent, not only as to the names which reflect credit, and shed lustre on science in that country—but also as to the *nature of their labours*; in return for which silence he becomes most vociferous in proclaiming and commending the many grand crosses and commanderies, dukedoms and marquisates, which decorate scientific men! In fact, the Reviewer sets off with professing to shew that every branch of science is in the most flourishing condition among our nearer neighbours, and ends, by proving only that a number of aristocratic distinctions have been conferred on their men of science. Did not the Reviewer notice, in his rambles through the ill-paved streets of their metropolis, that the cabriolet drivers of Paris are likewise decorated with crosses of the Legion of Honour and St. Louis; while the same useful personages in this country have scarcely a button to their coats? But who has ever thought of deducing from two such opposite conditions of the same class of people in France and England that the *science* of the whip is "regulated on more enlightened and liberal principles, more successfully cultivated, and more splendidly patronized" in the former than in the latter country?

The reviewer, however, thought differently when he indited his article, and accordingly we have him, throughout it, pursuing the same train of argument and reasoning. This view of the state of science in Prussia, Russia, Sweden, Denmark, Bavaria, the Netherlands, Germany, and various states of Italy, is of the same stamp, and illustrated by the same ex-

amples. He has wholly confined himself to shew how many crosses and yards of variegated ribbon the scientific men of those countries have received, or what lucrative situations they have filled—without even hinting at the nature of the talent, invention, discovery, or scientific acquirement, for which those puerile, gewgaw-distinctions were granted by their protecting philo-scientific sovereigns. Had he pursued the latter conduct, we might then have formed some idea of the real state of science at present existing in those countries; and although the bare enumeration of the works produced by those titled *savans*, would have been but a very imperfect evidence of the intrinsic value of science, and of its standing in the republic of knowledge, it would yet have been better than that which is adduced by the reviewer, and which amounts to nothing. Indeed I would defy the whole junto of reviewers of the Quarterly, and the privy council at Mr. Murray's, to squeeze out of the number of pages, falsely entitled “on the Decline of Science in England,” a single *phrase* which would enable any reader to say, on putting down their last Number—“Thank Heaven! now I know what scientific men *have done* for science on the Continent, and I see too clearly how little scientific men have exerted themselves in this country, from which it is evident that science is in a state of decline amongst us.”

The question, treated on its own merits, is doubtless one of great importance. It is really worth while to inquire, since so much has been said on the subject, how far the circumstances of the times, and the passing events of the day, betray the decline of scientific knowledge in England—and, farther, to ascertain the real condition of that Society which, having been erected for the improvement of natural knowledge, is now accused of having retarded its progress! Those who stand forth to criminate that Society, assert that we are sunk into the pool of confusion three fathom deep. The pre-

sident, say they, knows not what to be at—the council are equally ignorant of what the president would be at, and the fellows at large are not much more sapient as to what the council are likely to be at on the next apostolic day—great St. Andrews' festival. The reasons of so untoward a state of affairs, the grumblers and the “noisy ones” contend, are plain enough. In a society essentially scientific, there are officers who have done nothing for science; in a society which is to improve natural knowledge, there are four-fifths of the brethren who have no knowledge at all, natural or artificial; in a society which ought to uphold the character of Englishmen in the universal republic of science, and lead foreigners to look up to it with respect and veneration—not one of the leading men have ever been known to foreign academicians, either by their name or their labours, or are they capable of entertaining such foreign academicians when on a visit to this country, or correspond with them and answer their communications when abroad, from ignorance of foreign languages.

The consideration of all these several points has led the author of this “Expostulation” to make many and laborious researches, in the course of which he received every facility from the subordinate officers of the Royal Society—so that he has been able “to dissect that body” in a manner which has never been attempted before, in the very rooms of the Society—and thus expose to public view the real state of its constitution, without having recourse to scurrilous or abusive language against those who, from time to time, have had the management and treatment of it. This forms one part of the inquiry, the result of which he now offers to his “co-fellows” and the public generally. The other part embraces a plan of reform, or rather for the correction of the existing abuses, in the Royal Society. But above all has he taken care to discuss dispassionately the principal proposition, so much hack-

nied about of late, namely, that science is on the decline in England.

For the sake of method and that clearness which may be expected always to follow method, I have thrown into two great and principal sections, all that I have to offer on the subject of my "Expostulation." I have considered in the first, briefly and rapidly and by references, rather than by arguments, the real state of science in England at this moment; and in the second I have enumerated and discussed the probable results which a judicious and temperate reform in the mode of promoting, cultivating, or encouraging science may be expected to produce.

In the first section a variety of topics for reflection naturally arrange themselves.

1st The consideration of every argument which has been urged, whether by means of professed works, or detached papers, reviews, magazines, and letters against the present state of science in England.

2^d The number and composition of the various scientific societies in London, their labours and character.

3^{dly} The present *real* state of the Royal Society of London for improving natural knowledge.

The second section embraces the serious consideration of the reform of the Royal Society, and the suggestions for encouraging science in England.

This section refers also to more than one subordinate topic.

1st The most preferable form to be given to the Society—its ordinary meetings—and mode of conducting business.

2^d The necessary alteration in its present statutes and by-laws.

3^d The choice of a president and of the officers of the Society.

4^{thly} and lastly. The best mode of rendering available the numerous institutions existing in England which have science for their object.

FIRST SECTION.

The real State of Science in England at the present moment.

1st Topic. The consideration of every argument which has been urged against the present state of science in England.

In taking a general view of whatever has been urged by those who contend that science in this country is on the decline, either in works written *ex professo* to that effect—or in publications, of whatever other description, in which the subject has been mentioned only incidentally : it is impossible not to direct our principal attention to the assertions made by a distinguished mathematician upon that subject. Mr. Babbage, in his recent volume, has undertaken to shew that, with regard to the more difficult and abstract sciences, England is much below other nations not merely of equal rank, but below several of much inferior power ; and he attributes this state of comparative ignorance to a variety of causes, which, in my humble opinion, prove nothing in support of his position ; because they would prove too much for him if the truth of that position were to depend on the reality of the causes alleged. We shall deliberately notice by-and-bye each of the causes in question as specified by the ingenious author. Mr. Babbage next (in illustration shall I say of his assumption that Englishmen occupy at this moment the lowest rank in the scale of science?) proceeds to comment on the present condition of that Society which has hitherto been supposed to be the exponent of the scientific character of England. In the latter part, which may be said to be the principal, as it is the strongest part of his performance, Mr. Babbage has been more successful than in the former or more abstract part

of it; and had the language of grave and friendly remonstrance given utterance to the enumeration of the abuses, old-fashioned prejudices, injurious regulations, repeated blunders, and indefensible acts of the successive administration of that Society, which, collected with industry and stated with clearness, leave no room for any other than the conclusions to which the intelligent writer has arrived in his book; those conclusions would most assuredly have been adopted by the majority of the fellows as a guide for their conduct—and reform must necessarily have followed. The facts themselves are damning; but the harsh words of reproach and the insinuations as to motives, thrown out against certain individuals, weaken the intended condemnation of those who otherwise had stood convicted by the facts alone. This will be better developed in the progress of these pages.

In the third division of Mr. Babbage's book, which contains suggestions for the reform of the Royal Society masked under the more specious phrase of "Suggestions for the Advancement of Science in England," there are to be found many valuable hints; but, as I differ much from him in his views of what is important in science, and place but little reliance on the establishment of cavaleresque distinctions, as means of fostering science in this country—and, indeed, as it is the main object of the present publication to offer a plan for the reform of the Royal Society, which, I presume to think, affords the advantage of practicability, I shall only touch upon this part of Mr. Babbage's book lightly and incidentally.

Now, as to the causes assigned by Mr. Babbage with a view to explain the decline of science in England, I said that they proved too much. Is it not so, when we find him stating that to the present system of education pursued at our public schools and at the universities, the neglect of science in the country is partly to be attributed? If this position be true, in as much as the system now pursued at those schools

and universities is *totibus modis* the same which has existed for centuries, it would follow that science, in England, must always have been on the decline, even when Newton filled the chair which our author has the proud distinction of filling at this moment in the University of Cambridge. And if always on the decline from such a cause, I would ask the Lucasian Professor, at what period then did science flourish in this country? I might also put to him another question connected with this form of university education, and advisedly require of Mr. Babbage, who in his book proposes some sensible alterations for the improvement of academical instruction, to tell us how many lectures he gives to his pupils in the course of the scholastic session or during each term at Cambridge; and whether he be present, as long and as often, as his zeal for mathematical sciences I am sure would prompt him to be, in the *Gymnasia* of his *Alma Mater*, in hopes of inspiring the young academicians with his own ardour for science?

A second cause for the present decline of science in England, alleged by Mr. Babbage, and which, like the first proves too much for him, is "the little encouragement afforded by the English Government to the authors of useful discoveries or of new and valuable inventions." Without entering into an examination of the truth of this allegation, which many ministers of the crown might be inclined to refute, by reminding Mr. Babbage of the sums voted out of the public purse for the improvement of chronometers—the introduction of antiseptic fumigations—the discovery of vaccination—and the encouragement of polar navigation, with a hundred more votes of a similar description; I would submit to the author, that as this second cause is said by him to have existed at all periods, the decline of science, which is made to depend upon it, must also have been noticed "at all periods" in England. Thus, then, according to Mr. Babbage's

own shewing, the two series of causes which were at one and the same time to account for and prove the present decline of science in this country, may be considered as proving more than the author desires. But it will be more charitable towards him to say, that those causes, in reality, prove nothing in favour of his argument—for, properly speaking, science has never been, nor is now, on the decline in the British dominions. I would venture to assert, without much apprehension of being contradicted—and that, too, on the very grounds assumed by Mr. Babbage for quite a different purpose—that pure, difficult, and abstract sciences are, at this time, in precisely the same state in which they have ever been in England, namely, that they are moderately cultivated, abundantly productive, and sparingly endowed with great names and supereminent genius. Great Britain, like France, Germany, and Italy, has had its luminaries in science, at intervals far apart—its Newton, its Herschel, its Black, its Cavendish, its Watt, its Arkwright, and its Davy, names, every one of which would be sufficient to impart its proud character to the century in which it flourished. But, beyond this admitted similarity, England can no more claim to place her more general annals of science by the side of those of the nations above-mentioned, than can the latter compete, at the present moment, with England, in the extent of the application of scientific discoveries to useful and profitable purposes. Science, then, I would say to Mr. Babbage, is now what it ever was in this country, highly respectable and abundantly useful: but we have far more noisy pretenders now, than were ever known to assume the garb of scientific men in former periods—we have more jobbers in science than ever existed before—and we find, alas! more of petulance than modesty in some of the truly scientific men.

These are the only real differences between what science is and what science was in this country; differences which,

by rendering the profession of a scientific man despicable in the eye of the well-intentioned, the clear-sighted, and the contemner of quackery, have given to science itself the semblance of being on the decline. In support of his declaration to that effect, what proofs has Mr. Babbage adduced? Does he mean to contend, for example, that a judge, entirely innocent of science, who has to charge a jury on a question in which science is vitally involved (because it is that branch which gives health and restrains death,) could not have been found at any other than the present period, so prompt in declaring, pending the trial of a *manslaughtering* empiric, that the laws of this country distinguished nought between the act of an ignorant pretender, who assumed the office of physician, and that of the president of the most learned college, who professed equally to heal diseases? Or is Mr. Babbage prepared to assure us that, in years gone by, a junior lord, who certainly could not have learned science at the Treasury, would never, as in our own times, have been appointed chairman of a commission before which questions connected with the most difficult points of physiological science or the study of the aberration of the human mind are often debated, and which questions are as often decided by this noble chairman, *coute qui coute*, without much opposition from the professional men, who are part and parcel of that commission? Perhaps Mr. Babbage may be disposed to believe that, in times more favourable to science than our own, appointments of persons to situations in the scientific department of the British Museum would never have been thought of, where the individual must be appointed first, and get his scientific acquirements as well as he could afterwards. Or probably Mr. Babbage is prepared to assert, that on no account would a minister of the home department, except in these days of degenerated science, have declined all interference in behalf of a cheated, duped, and injured public, after he had

promoted inquiries into the causes of two important sources of abuses which affect the health and the lives of his fellow-creatures, of the existence of which he declared himself convinced, which he promised should be rectified, but which he afterwards abandoned to their uncontrolled dominions? * All these arguments, indeed, our author might feel inclined to adduce as illustrations of the decline of science, and the little respect in which it is now held in England; but to all those who are versed in the more remote periods of our national history, a hundred similar abuses will suggest themselves to overthrow the conclusions of the learned wrangler. Nay, I might go farther, and point out to him in the more recent pages of the modern history of that country in which Mr. Babbage seems to have planted the throne of science, innumerable abuses of a like nature to those I have enumerated, the result of precisely similar motives and guiding principles, to wit: jobbing—personal interest—patronage—political sympathy and antipathy—nepotism—jesuitism and favouritism—which, after all, will, to the first day of the millenium, exert their baneful influence, not in England only, but in every other civilized country of the universe.

Mr. Babbage has given a dismal account of the prospects of a young man, who, at his entrance into life, impelled by an almost irresistible desire, devotes himself to the abstruser sciences; or who feels that the career of science is that in which his mental faculties are most fitted to achieve the reputation for which he pants. The sad picture of those prospects is appalling; but how can it be adopted as proving the wretched state of science in England? If we pretend to a return from society for what we give to it; society has a right to expect that what is tendered be useful to its members

* The question of the supply of water to the metropolis, and of protecting the public against pretenders in one of the most interesting branches of medicine and surgery.

and institutions. If the abstruser sciences can promote the benefit and advantage of both largely, the man who cultivates them will reap an ample harvest of profit from his occupations. But how can he expect such a result if his intellectual faculties, endowments, and lucubrations tend only to exhibit to the world the power of thinking man over brute creation, and inanimate matter; or the superiority of the mind of one individual over that of the millions? In the latter case, fame and an imperishable name are the noblest guerdon to be desired; and this never fails to light on the highly gifted in this country. What nobler aspiration could Mr. Babbage himself make for his own interest, than the acquisition of that name which will endure for ever, if his ingenious invention, whereby the abstract operations of the mind in mathematical reasoning are made visible to the senses, shall prove ultimately successful? But on the other hand, what extent of public pecuniary recompense can he expect which the applicability of that invention to the wants of the public could warrant and justify? The invention is by nature, and mechanism, size, and *intention* manifestly limited in its use; it may facilitate mathematical calculations on great state and public occasions, and secure that accuracy, in all such circumstances, which can scarcely be looked for from calculating philosophers; but where is the *quantum* of benefit which society is to derive from it, that shall determine the quantity of recompense to be given to the inventor? A case would certainly be made out here for an honorary distinction from the government in behalf of the inventor; and I would go farther, and add, that in as much as the invention itself, even in its limited application for great mathematical operations, would be equally useful to other civilized nations—the honorary distinction should be either a combined one to Mr. Babbage from all of them—or he should receive from each a specific honorary reward. But would all the crosses and medals and pretty worded letters

from home and foreign ministers, or even a gazetted monosyllable prefixed to the inventor's name, equal in the scale of public opinion—nay I would say of Mr. Babbage's own opinion—the weight of that name alone which would inevitably suggest itself, and for ever be united with the use, the sight, and even the bare mention of that surprising contrivance?

Where stands the man who can say that he would rather die possessed of the thousands of pounds, which a concealed process, the result of scientific research, placed at the disposal of a defunct philosopher; than, enriched with the thrice greater renown of another philosopher, also recently lost to science, whose open, disinterested, and romantic generosity, handmaid of his genius, was for ever hurrying into the power of the public, without looking or working for paltry lucre and selfish profit, every invention and discovery of which his mind proved so prolific:—from that which for the first time made the finer and most evanescent combinations of abstract chemical philosophy tangible, down to those which have since tended to save the lives of thousands, in the one instance, and, at some future period, the expenditure of many millions of the public money in the other instance?

These higher considerations ought surely to have restrained Mr. Babbage from laying so much stress on the asserted facts, that the exercise of the talent of a philosopher in this country, even when he shall have won a station high in the ranks of European science, can only produce “the paltry remuneration of a clerk;” and that the high and independent spirit, which dwells (ought to dwell Mr. Babbage should have said) in the breasts of those who are deeply versed in scientific pursuits, is ill adapted for the paltry appointments to which science may recommend him.

The charges brought forward against modern science in England by another writer are far different from those contained in Mr. Babbage's work. The Kensington Astronomer,

who, thanks to his stars, has received, at the hands of his Sovereign, a distinction due to his merits, and has since been in the right ascension amongst the titled of the land, instead of skimming, as heretofore, along the line of the visible horizon of an untitled multitude, advances such criminatory allegations, as far outstrips the consideration of the mere scientific man, until they become the subjects for legal investigation. But even here I would meet the "noisy ones" and the grumblers, and contend that some of the very charges—and the manner in which this public and bold accuser explains and illustrates some of those charges, which have science more immediately for their object—prove the very reverse of his position, that "science in England is on the decline." Sir James (I will take up one or two of the numerous articles of impeachment at random) states that the Copley medal, from unworthy and personal motives, was on one occasion about to be improperly adjudged; but he at the same time admits that many scientific men are in existence whose labours would have deserved that distinction. Hence science, thus far, cannot be said to be declining; although an abuse of power in the hands of narrow-minded and selfish individuals, may have injured the cause of science. Again, the Chevalier observes, that the Nautical Almanack, owing to the inefficiency of the individual entrusted with its construction, had become at last such a disgrace to the country, that the Government has been compelled to confide its improvement to the Astronomical Society. How can this fact prove any thing against science, or in support of the position that science is declining? It may prove the disgraceful manner in which a Government, reckoning not a single man of science among its counsellors, appoints unfit persons to scientific duties—but it also proves that science is *not* declining, since a Society of Astronomers exists in England capable, according to the Chevalier's assertion, to *improve* the said almanack;

and it farthermore proves that science finds, at last, its ascendancy, even with a Government innocent of science, and compels it to seek assistance from truly scientific men. One more instance and I conclude my observations on Sir James South's opinion of the state of science in England. One other of his charges is, that by improper management, and after much waste of money and time, the honour belonging to Great Britain of once being the optician of the world has been forfeited; and yet a little before Sir James had assured us, that an English optician exists now "second in merit *only* to the ever to be lamented Fraunhofer." Here then we have the Chevalier's own declaration that practical optics, no mean branch of science, is *not* on the decline, since the second optician in the world is an Englishman. But if the Chevalier's opinion be really worth any thing on points of practical optics, an English optician must be now in existence *superior* to all other opticians abroad—for the only illustrious foreigner to which he was second is *now no more*!

Thus, then, it appears that, of the two more formidable pleaders against modern English science, neither the one nor the other has distinctly proved his assertions—and I scarcely need add that the third pleader, of whom I took notice first, the Quarterly Reviewer, has completely failed in his enterprise, and that he has, indeed, broke down under a weight far too oppressive for his strength. It would be idle, and an unnecessary prodigality of time, were we to stop to inquire into the various statements of the minor advocates of similar doctrines, which have appeared from time to time in magazines or newspapers, whether in the shape of letters or paragraphs. In none should we find a sufficient return for our pains—or a scintilla more of real information on a subject which seems to have been exhausted by the principal writers noticed in these pages. The readers may rest assured that the whole mistake arises from a misapplication of terms. If, instead of speaking

of the decline of science in England, the authors and writers in question—and those who, incapable of writing, but eager to mimic their betters, go about denigrating science in every club and society, to gain a patch of momentary importance in the character of critics—were to descant “on the use and abuse of science” in this country, and declare that science is at this moment without a HEAD—they would make good their position; and the arguments and facts, many of them incontrovertible, adduced by them to prove, but which, in reality disprove, the decline of science, would have clearly illustrated and made manifest the justice and correctness of their statements.

Having disproved the present fashionable assertion, that, as a scientific nation, England is declining from what she was; I proceed to shew that science (as I before observed) is now what it always has been in this country—namely, an object of moderate interest to the public with regard to its abstract principles, but of paramount importance, and one which has never been lost sight of, with respect to its applicability to useful and profitable purposes. Great Britain has uniformly held a middle rank in the scale of scientific nations. She has, indeed, on a few occasions, easily numbered, risen to a very elevated station in the region of philosophical science; but even on those occasions, which form glorious epochs in the universal history of natural knowledge, the abstract philosophy of a discovery, or a brilliant invention, the result of philosophical deduction, has dwindled into mere matter of fact and profitable applications, as soon as each of them was found to be susceptible of such results;—or has passed away like an aerial dream, without leading to any result whatever, when the proclaimed abstract theory could not be converted into practice. Hence, if we descend to details in this curious question, we shall find that those branches of science have principally commanded the attention of the English nation, which tend

to minister to its wants or its luxuries. Thus mechanics have ever been a favourite topic with them; for they produce wonderful and immediately-available results which bring profit. If we improve our chronometers—start into existence a new power, equal to that of man and brute combined, in our steam-engines—uproot the firmest oak by an hydraulic press—and lay down rail-roads, on which lumbering machines vie in velocity with the lightest feather impelled by the breeze—we may boast that we cultivate mechanics with success; but farther we cannot say. To account for all those discoveries and inventions; to describe them in terms intelligible to every scientific man in Europe; to apply mathematical demonstration to each of them; to exhibit the beauty of their respective combinations, as they flow from the unerring principles of the philosophy of science—belong not to the fortunate discoverers, nor to the professed philosophers of this country. That art is purely French and Italian. In the mechanical arts the English may stand unrivalled, but the French and the Italians surpass the English in the skill of describing them. This successful application of science to industry has made the English a nation of calculators and economists—and, hence, the criterion of value of every thing scientific in England is its marketable price. Does not every reader recognise, in this picture, the real state of science for the longest period of time in remembrance, and not the history of the present condition of science only, as falsely pretended by a few individuals of the present day?

The Lucasian professor says that we are far behind the French in mathematics; and the knightly astronomer of Kensington proclaims continental astronomers greatly superior to those of England. Another of the grumblers pretends that natural philosophy is more valued and better cultivated by foreigners; while a fourth critic asserts that the English have no taste for, nor skill in zoology. Admit we their asser-

tions for an instant, although somewhat exaggerated; has not this always been the case during the long intervals which have elapsed, between the appearance of one great constellation and that of another in this country? What for instance was the condition of the higher mathematics in England, twenty—fifty—or a hundred years ago? Colson, Maclaurin, Simson, Stewart, Emerson, Playfair, Maseres, Waring, Pemberton, Hellins, Hutton and Young, figure in the history of general mathematics, in algebra, in impossible quantities, in cubic and quadratic equations, in series and logarithms, in properties of curves, in curved surfaces and solids, in combinations and chances, in interest and annuities. But are there no mathematicians now of the same calibre? No Ivory, Woodhouse, Morgan, Herschel, Babbage, Kater, Christie, Barlow, Baily, Gompertz, Whewell, Allman, Peacock, Lubbock, Bromhead, and Groombridge, to whose labours the same branches of mathematics are much indebted? Still the whole amount of the labours of the first, as well as of the second series of English mathematicians, however respectable, cannot be put in competition with the striking and magnificent discoveries and demonstrations of transcendant truths—embracing the very structure of the universe—due to foreign mathematicians, contemporaries with the two series of mathematical writers in this country: Bernoulli, Bossut, Borgnis, Clairaut, Mascheroni, Cagnoli, L'Huilier, Lorgna, Lacroix, Lacaille, Shubert, Euler, Lagrange, Carnot, Cousin, Arbogast, Vega, Hachette, Poincot, Fourier, Fresnel, Delambre, Puissant, Prony, Biot, Cauchy, Dupin, Ampère, Legendre, and LAPLACE.

If we turn to the astronomers of former times, and those of the last fifteen or twenty years, what circumstance shall we discover, in either series that warrants the assertion of Sir James South, which goes to assign a very inferior rank to the latter, as compared with those of the former series? Take the last eighty years, and set aside the great Herschel, who

was a foreigner, have the labours of the astronomers of the latter part of the eighteenth century greatly outstripped those of the first part of the present century? Are Maskelyne, Michell, Goodricke, Bugge, Pigott and Hellins not to be matched with Brinkley, Mudge, Baily, Pond, South, and the *English* Herschel? And are not the elder as well as the more junior astronomers just named, inferior in rank, in the republic of science, to twenty continental astronomers, German, French or Italians, whose names suggest themselves at once. The Piazzzi—the Oriani—the Lalalande—the Cassini—the Zach—the Albers—the Pons—the Schumacher—the Gauss—the Encke—the Lindenau—the Plana—the Poisson—the Arago—the Bessels—the Struve—each of whom is a host, compared to the whole number of English astronomers of the present day put together, not only for their individual discoveries but also for their almost incalculable labours? Reflect for one moment, patient reader, on one, only, of this illustrious congregation—Struve, who lately visited this country, having, single-handed observed some thousands of double and triple stars, many hundreds of which are new and of the first and second class, and confirmed the fact first hinted at by Sir W. Herschel, that the former curious binary systems in the planetary world, in which two stars perform to each other the office of sun and planet—had unjustly been considered by astronomers as immoveable celestial bodies! In this one point alone, were we to apportion reputation to two individual astronomers in proportion merely to the quantity of labour performed by each—how far above South, (whose principal character as an astronomer rests on observations of double and triple stars) would Struve soar, and above the present Herschel also, in the same branch of astronomy? This superiority might even be *numerically* appreciated, and Struve would then appear to be as many times more celebrated than South and Herschel together, as the number of double and tri-

ple stars observed by the former is greater than that examined by the two latter. But though the foreign astronomers be so infinitely superior to the two English observers, the latter are nevertheless very respectable astronomers; indeed as respectable as English astronomers can be.

We might pursue this comparative and rapid, consequently imperfect, survey of the scientific men of this country in the last and present century in every other branch of natural science, and we should find the same assertions illustrated (nay, more than illustrated in some particular branches, such as natural history, anatomy, and physiology,) with which I set out; namely, that the quantum of science, abstract and theoretical, of the present day in England, is equal to what it was at a more remote period; and that in all branches except one, that *quantum* has been inferior to what is to be found in the scientific history of corresponding periods on the Continent. The branch which I except is chemistry. In this branch, indeed, England can boast of greater triumphs than any other country in the world. Davy is the Newton of chemistry—and there has been but one Newton in the universe. Newton followed Galileo—Davy succeeded Lavoisier. The predecessor of Newton first developed the movements of the planets and the nature of that of the sun; but Newton himself discovered the law by which those movements are regulated. Davy's predecessor first hinted at and proved the compound nature of one pretended elementary substance; but Davy himself tore the veil of mystery from over the most refractory compounds deemed simple before him, and discovered the law by which those compounds are regulated. Here, then, England is superior to every nation in Europe; and is it while the sod lies yet broken over the fresh-made grave of this great and illustrious philosopher, who will give his name to the century he lived in, and whose memory will be the more revered the farther

we shall recede from the recollection of what was mortal in him—that we are to listen patiently to the gross calumny echoed and re-echoed by the “noisy ones,” that science is on the decline in England? I challenge them, to a man, to peruse the forthcoming volume from the flowing and pleasing pen of one of their “Co-fellows,” but not fellow grumblers, in which, under the title of *Memoirs of the Life of Davy*, they will find traced, in a style which invites attention, the history of chemical and physical science; and when they shall have closed that volume, let them, if they be still inclined to libel modern English philosophy—repeat their thrice-refuted assertion that science has been declining in England.

2^d Topic. The number and composition of the various scientific societies in London, their labours and character.

On this subject I must be brief. At one time, and that not a very remote one, there existed but one society for the “improvement of natural knowledge in London.” The field of science occupied by that society was far too extensive to have been all equally well cultivated. The higher branches of scientific knowledge claiming, under an illustrious president, the particular attention of many members—natural history became neglected, and this gave rise to the formation of the Linnean Society. This society has collected facts from every quarter of the globe, and has arranged, in occasional volumes, information which might otherwise have been wholly lost on botany and zoology. But the science of natural history has not, through the exertions of this society, made that progress which would entitle England to an equal rank with continental nations. Still it cannot be asserted that natural history, compared to former periods, is on the decline in England. It consists now, as it always consisted, in a series of nomenclatures and examinations of species, to the entire exclusion of the higher pursuits of that science. Systematic and technical natural history, in fact, is the only natural history cultivated in this country.

The gentleman who, from the department of numismatics in the National Museum of London, where he was placed from private considerations, was suddenly transplanted as an assistant into that of natural history, will furnish the most recent example of what I mean to convey to my reader on this subject. Instead of employing the many leisure hours which a fixed salary—a convenient residence—and the opportunities of arranging a zoological collection in the splendid gallery of the Museum afford him for the drawing up of a comprehensive, and philosophical description of the origin—habits—peculiarities—history—and propagation of the natural objects under his management, so as to qualify himself for his situation—this gentleman, one of the “noisy ones,” I trow, prefers favouring the readers of the *Annals of Philosophy* with a transcript of a dry catalogue of butterflies taken from a foreign author, and diluted over a great many numbers of that once flourishing journal!

The separation from the parent stock of so important a branch as the Linnean Society was the first blow given to the colossal importance of the Royal Society. The next blow was a more insidious one; and although in its effects it produced not an immediate injurious result to the parent society, its example proved far too prolific in the production of successive schisms, and in multiplying the number of *separatists*. It is curious to notice how skilfully the sagacity and vigilance of the veteran President of the Royal Society were lulled to sleep by the *separatists*, who, under the plea of cultivating with more intensity and attention *animal chemistry*, tore themselves off from the bosom of their mother society, and yet adhered still to its mangled remains. The history of the Animal Chemistry Society, issuing from the Royal Society, is best given in the very words of the worthy Sir Joseph.

“Allow me, Gentlemen, (observed the President at the Anniversary Meeting of the Royal Society, held Nov. 30,

1809) to request your patience for a few minutes more, in order that I may communicate to you a new arrangement made by your Council, of importance, in their estimation, to the general welfare of the Society, which they hope will be honoured with your approbation.

“Certain fellows of the Society, whose views lead them principally to the study of human and comparative anatomy, and others chiefly occupied in the study of chemistry, among whom are the names of Cavendish, Hatchett, Home, Davy, and others, having found it repeatedly necessary to consult each other, the anatomist requiring from the chemist the analysis of the different modifications of animal matters, diseased or healthy; and the chemists, on the other hand, requiring in their turn from the anatomist a circumstantial, precise, and distinct account of the nature, origin, and situation of the matters they were requested to analyse; found it convenient to unite themselves, with the addition of some few other persons, not absolutely supported by them, for the purpose of promoting the advancement of animal chemistry.

“In thus uniting themselves into an association, they, however, recollected that, as fellows of the Royal Society, they owed to that body, under the tenor of the obligation they had subscribed on their admission into it, the duty of promoting to the utmost of their ability the interests of the mother society, and they felt at the same time the propriety of continuing to consider our annual publication as the best and most convenient method of communicating to the public the transactions of the learned in all places, and more especially those of persons actually making a part of the body to which they belong.

“With this view they applied to your Council, and having laid before them a copy of the fundamental rules of the new society, by which it was enacted, that all discoveries made by the members, and communicated to their meetings, should

be offered to the Royal Society, to be read at their table, and inserted, if approved by the Committee, as papers in the Philosophical Transactions. They requested to be admitted by your council as a subsidiary and assistant society to the Royal Society, and as such to be noticed in the public as well as the private proceedings of the Royal Society.

“To this request your Council lent a willing ear. They were aware how much the association of persons of different views, united together for the cultivation of any particular branch of science, must tend to its benefit and advantage; and they felt also the marked propriety of conduct in the applicants, who preferred rather to strengthen the foundation of the ancient edifice, of which they made a part, than to sap and undermine it by attempting to wrest from it the cultivation of any particular branch of natural knowledge placed by the original constitution under its superintending care. They also considered the great convenience derived by the public from having one publication only of the Transactions of the learned, in which all branches of natural knowledge are comprised; and for these convincing reasons they determined, without hesitation, to admit the worthy associates as an assistant Society to the Royal Society, and they accordingly gave orders to the officers of the Society to recognize them as such in all proceedings of the Society. (*Irregular by charter.*)

“This admission, which resembles the sub-infeudation of the Feodists, the creation of a subordinate manor, within the boundaries of an established one, allowing the new institution to possess some privileges, but reserving always the signorial duties of suit and service to the original manor, has already been productive of two valuable papers which have been read at your table, and both have been printed as such in the Philosophical Transactions, (*the members and authors being generally the voters in the consultation of papers,*) nor has the ardour and diligence of the members of the new association since that time in any degree abated. They are now

busily employed in advancing the science they have undertaken to improve, and it cannot be doubted that other fruits of their associated labours will be laid upon your table, and recorded in your Transactions, in the next as well as in future years."

The example of this Society led to the formation of the Geological—a society, the utility of which as a separate body, is more than problematical, but which has nevertheless so directed its pursuits as to render itself popular by collecting and exhibiting the jewels and trinkets of nature, and by enumerating and singly considering its variously formed and constituted earthly clothings. Assuredly when the "noisy ones" survey the quarto volumes and the lithographic delineations of the Bucklands, the Fittons, the Lyells, the De-la-Beches, and the Connybeares, not forgetting the interesting description of the Bagshot-heath sands, (which has the merit of being the only production of its author)—all from the Geological Society of London—they will not venture to assert that science is on the decline in England. The Geological Society is an aspiring society—in its separation from the parent stock, it inflicted a mortal wound on the Society which had brought the geologists into notice. That it may not succeed in its farther aim of completely overthrowing its parent through the present half-disguised manœuvrings of some of its members, is devotedly to be wished, and should be strenuously contended for. There again, as in the Royal Society, the "noisy ones" are the least scientific—while those, among their members, who in reality have created geology in England, and placed that science nearly on a par with that of the Vernerian school, by their labours, memoirs and exertions in the service of geological science, are tranquil but grieved spectators of the cabals and intrigues of the few.

Unquestionably (since we are on the subject of geology) were we to form our estimate of the real state of geological

science at this moment in England from what some of the members of the society under consideration are accused of having written in the last number of the Edinburgh Review, while giving an account of the transactions of their own body, it would be impossible to deny that scientific knowledge is on the decline among us. In that article, the "noisy ones" of the Geological Society, before proceeding to speak of their own labours, favour us with the enumeration of the following discoveries.

"The Earth is one of the eleven planets which revolve round the sun." (!)

"How long they (*the motions*) of the planets have continued, we do not know." (!!)

"Language, (*this is an old story*) and the knowledge of writing, (*this is perfectly new*) distinguish the human race from all other animals." (!!!)

Edinburgh Review, October 1830.

Truly, science here cuts but a sorry figure. But how much worse does it fare, when we come to the marrow of the Reviewer's lucubration! What think ye, oh my readers, is the object of geology? Hear the answer of the Reviewer. "*Geology is the science which attempts to answer the difficult question of whether the solar system was brought into existence only about 6000 years ago, or whether it existed before the human race made their appearance on earth?*" (!!)

Fie! upon such trash—the writer evidently knows the real meaning of geology better; but he cannot write plainly; he wishes to talk fine language, to appear unusually deep and scientific. He is one of the "noisy ones," and he gets involved into all sorts of blunders.

Whether the Zoological and Horticultural Societies can, in fairness, be considered as emanating from the great parent stock—and the Astronomical Society, also, which, with the Medico-Chirurgical, complete the series of *sepa-*

ratists, so that the skeleton only remains of the dismembered parent—I leave to my readers to determine. The two latter have made gigantic strides—and their usefulness is unquestionable. But that of the two former remains yet to be demonstrated—unless the circulation of large sums of money, which they have occasioned, be considered as an object of utility to the public, even in matters of scientific societies, in this, of all, the most calculating nation in Europe. The Zoological was evidently intended as an imitation of that proud establishment, the Garden of Plants, at Paris—but the imitation, if intended, is a very humble and humiliating one, for a nation which squanders millions in settling a point of political geography or military possession, and which has all the productive parts of the globe, rich in objects of natural history, either under the sway of its sceptre, or within the reach of its maritime arms. A project for a real imitation of the Parisian establishment, was suggested, in 1818, by the author of this Expostulation, on his return from the French capital. The Regent's Park was then forming, and was selected as the most appropriate spot. A few friends met at a dinner party at the Freemason's Tavern, for the purpose of taking into consideration the suggestion of the author. Dr. Latham was placed in the chair, and the architect who had the disposal of the ground was ushered in, to exhibit the plan of the Park and shew the plot of ground intended to be allotted to us: the paltry views developed on that occasion squared exactly with those which have since been acted upon in the formation of the Zoological Society—petticoat protection—and the amusement of the ladies of subscribers and their children were particularly insisted upon. The establishment was to have been on the same miniature scale on which the present Society acts—the various parts and menageries were to be *en petit*—the space was confined—and the idea of inclosing the whole of the inner and outer ring, with the

lake, and undulatory ground, for the formation of as splendid, if not superior an establishment as that of the Garden of Plants at Paris, which—while it would have afforded equally a variety of promenades, groves, and rides, as the Park in its present state affords to the public—would, in addition, have presented one of the noblest spectacles which a nation eager for information and knowledge could desire—was laughed at as Utopian and absurd, because “it promised not to be lucrative” to the Crown and its agents!!

To these numerous societies existing in London, which profess to have science for their object, I would add the Royal Institution of Great Britain—a body of men not all equally scientific, or intended to be such—but who all equally feel a warm interest in the progress of science, and by their united efforts contrive to promote with unerring assiduity the success of scientific investigation. The utility of such an institution, conducted as it has been of late years, is any thing but problematical. Many who would not otherwise have heard the word science pronounced, have become attached to its most popular branches through their exposition and illustration so invitingly laid before them by the various lecturers who profess science in the theatre of this Society. The assemblage of theoretical and practical men, of the amateur of science, and the professor of it—in numbers greater than ever assemble at any other learned society, has effected more in behalf of science than the reading of an hundred papers barely intelligible to the half-sleeping auditors at another society. It has inspired the many with a desire to know more—and the still greater number of those who knew nothing, with an irresistible wish to learn something. Is not this the best eulogium that can be passed on a society formed for the encouragement and promotion of scientific knowledge? But what if it be stated in addition to it, that within the walls of this institution, and with the means which the institution sup-

plied, that one great and sublime discovery was made in chemistry which at once placed Davy by the side of Newton in the category of excellence and immortality, and raised England to the first rank in chemical science?

3^d *Topic.* The present *real* state of the Royal Society of London for improving natural knowledge.

That the Royal Society is in the most piteous as well as pitiable condition—that its labours have ceased to be looked on with respect by the learned of Europe—that its councils are distracted by intestine dissensions, partialities, and absurdities—that its administration—nay, its very constitution is the least calculated to produce the results for which it was instituted: in fine, that it has become a by-word of contempt to belong to such a society as at *present* constituted, (as a profound and modest chemist and physician declared in our hearing a few days back) may all be true; nevertheless it does not follow that science, generally, in England, is placed in a similar deplorable situation, or that it is likely to bid adieu to these realms. I am ready to admit that, at present, compared to those of France, Germany, and Italy, the only real national academy which was intended to represent science in this country is sunk low indeed; but the cause of this inferiority is not to be sought for in a pretended want of scientific ardour or scientific talents in the country, or the decaying energies of an association which feels the natural attendants on all decrepit bodies. The real cause will be found manifestly to consist in the manœuvres of certain would-be *savans*—their conventicles, and their camerillas—in the inefficient manner in which certain situations and offices are filled to serve personal purposes—in the disgust created by the never-ceasing language of discontent on the part of those who hunger after medals, premiums, places, and orders of merit, with the view of increasing their own per-

sonal importance, and of adding that superiority to their names which the nature of their scientific labours cannot command—and lastly, in the lukewarmness of those who might stem but care not to do so, the current of rebellion by timely concessions, wholesome reforms, and a firm tenacity of purpose. In fact, the Royal Society—or, in other words, science in England, “is without a HEAD.”

Let us now proceed to examine how the Royal Society of London for improving natural knowledge is at present constituted. Let us *dissect her fairly* and extensively—see what she is and what she has been—how she has been governed—by whom she has been really supported—what her labours in the field of science have been—the encouragement she has given to scientific men—the mode in which she has administered the prodigal sums paid by the fellows—the process by which she recruits her ranks from year to year—and finally, let us examine well the inevitable tendency of her present governments to accomplish her own ultimate annihilation.

It is in this part of his “Expostulation,” that the author ventures to claim some credit for originality. The various points above enumerated are illustrated by facts, and facts alone, industriously collected from the best sources, *from the camp of the enemy*. Their authenticity is indisputable—the force which they will exert is inevitable. If that force be directed against those who, from their noise, seem to wish to be considered as the most immaculate—the conclusion must be final, and will do good. At all events, facts will be allowed to speak for themselves—and no vituperative comment will be made on them. In the dissection of the society, the operator has had no intention to wound one class of members more than another. Invidiousness has had no influence in the separation of classes of men, and of individual merit—the nature of the thing itself required it—

without it the public could not properly and impartially judge of the real condition of the Royal Society—and at this important conjuncture, such an impartial judgment can alone save that learned body; for it must lead to a determination to adopt the only measure likely to stay the threatened mischief, and restore the association to its lost splendour.

In adopting such a plan of operations, the author of this “Expostulation” had an ulterior object in view (besides that of departing from the course followed by more partial writers who descant on facts, to which they merely allude; whereas he states facts without descanting on them), and that was—the supplying every fellow, and those likely to become such—and still more so, the gifted individuals who may hereafter be called upon to reform the society and administer its interests—with a plain, unvarnished, and easily referable statement, analytical, chronological, and scientific, of the history of that society since the beginning of the present century. To that period has the author purposely limited his researches, and the aggregate of them may perchance be looked upon, hereafter, as the only manual in existence of the Royal Society of London for the last thirty years.

We will proceed first to consider the composition of the Royal Society as taken from the list of the current year, and as the mere number or names of the Fellows composing it would give but a meagre idea of the character of the society as a scientific body, we will place against each individual member his claim to the honour of having been admitted as such, based upon what he may have done in the way of “improving natural knowledge:” for which purpose alone the society was instituted just before the birth of the most illustrious of its subsequent presidents—Newton.

The following Dissection of the Royal Society’s List has never been attempted—but becomes absolutely necessary at the present crisis. The electors will be able, through it,

to judge at once of the truth of my assertion, that those are the most *noisy* on the present occasion who have contributed least to the character and rank of the society—and that the really useful and working members are those who have never cared for notoriety, places, and adulation.

AND NOW TO WORK.

DISSECTED LIST
OF THE
FELLOWS OF THE ROYAL SOCIETY
FOR
MDCCCXXX.

TABLE I.

Of Bishops, Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

0	Law, Lord Bishop of Bath and Wells	
0	Howley, Lord Archbishop of Canterbury	
9	Brinkley, Lord Bishop of Cloyne	
0	Magee, Lord Bishop of Dublin	
0	Sparke, Lord Bishop of Ely	5
0	Huntingford, Lord Bishop of Hereford	
0	Webb, Lord Bishop of Limerick	
0	Kaye, Lord Bishop of Lincoln	
0	Marsh, Lord Bishop of Peterborough	
0	Burgess, Lord Bishop of Salisbury	10

TOTAL—9 contributions towards improving natural knowledge by 10 Spiritual Lords.


 The Numbers in the left-hand column refer to the Number of Papers written by the Fellows, and published in the Transactions.

TABLE II.

Of Noblemen, Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

0	Earl of Aberdeen	0	Duke of Hamilton
0	Viscount Althorp	0	Earl of Hardwicke
0	Lord Arden	0	Lord Henley 35
0	Duke of Athol	0	Lord Holland
0	Lord A. Beauclerk 5	0	Marquess of Lansdowne
0	Lord Bexley	0	Viscount Lowther
0	Earl Breadalbane	0	Lord Lyndhurst
0	Marquess of Bristol	0	Earl of Macclesfield. 40
0	Marquess of Bute	0	Viscount Mahon
0	Lord John Campbell. . 10	0	Marquess Samazaro
0	Earl of Carlisle	0	Earl of Mansfield
0	Lord Carrington	0	Viscount Melville
0	Earl of Cassilis	0	Viscount Milton 45
0	Earl Cawdor	0	Earl of Morley
0	Earl of Charleville. 15	0	Earl of Mount Edgecumbe
0	Lord Churchill	0	Earl of Mountnorris
0	Earl Cowper	0	Duke of Norfolk
0	Earl of Darnley	0	Duke of Northumberland 50
0	Earl of Dartmouth	0	Earl of Orford
0	Lord Dacre 20	0	Lord Petre
0	Earl of Dudley	0	Lord Prudhoe
0	Lord de Dunstanville	0	Lord Rokeby
0	Viscount Ebrington	0	Earl of Roseberry 55
0	Earl of Egremont	0	Count de Salis
0	Earl of Eldon 25	0	Lord Selsey
0	Lord Farnborough	0	Duke of Somerset
0	Lord Garvagh	0	Earl Spencer
0	Earl of Glasgow	0	Earl Stanhope 60
0	Lord Glenlyon	0	Viscount Strangford
0	Viscount Goderich 30	0	Earl Talbot
0	Lord Gray	0	Viscount Torrington .. 63
0	Lord Grenville		

TOTAL—000 contributions towards improving natural knowledge by
63 Temporal Lords.

TABLE III.

Of the Officers of His Majesty's Fleet, who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

0	Rear Ad. Sir Rob. Barlow	0	Capt. G. F. Lyon 15
0	Capt. Beaufort	0	Capt. Jam. Mangles
0	Capt. F. W. Beechey	0	Capt. Fred. Marryatt
0	Rt. H. Ad. Sir G. Cockburn	0	Capt. Sir Murray Maxwell
0	Vice Ad. Sir E. Codrington 5	0	Capt. Henry Napier
2	Commander H. Foster	1	Capt. Sir W. Edw. Parry 20
0	Capt. Sir John Franklin	1	Capt. Ch. Phillips
0	Lieut. M. C. Friend	0	Ad. Sir Ch. Morris Pole
2	Capt. Basil Hall	0	Commander J. C. Ross
0	Lieut. S. Holman 10	0	Capt. Matthew Smith
0	Commander E. Home	0	Ad. Sir W. S. Smith . . 25
0	Vice Ad. Sir W. J. Hope	0	Capt. W. Henry Smith
0	Capt. Ph. Parker King	0	Vice Ad. Ch. Stirling.. 27
1	Capt. Edw. Lloyd		

TOTAL—7 contributions towards improving natural knowledge by 27 Naval Officers.

TABLE IV.

Of the Officers of His Majesty's Land Forces, who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

0	Lieut. Col. J. Baillie	0	Capt. G. H. Hutchinson
0	Lieut. Col. R. Batty	13	Capt. H. Kater
0	Major R. L. Beamish	0	Lt. Col. W. Martin Leake
0	Hon. Lt. Gen. W. Blaquiere	2	Lt. Col. J. Macdonald
0	Lt. Gl. Sir T. M. Brisbane 5	0	Maj. Gl. Sir J. Malcolm 25
0	Col. S. R. Chapman	1	Lieut. Col. George Miller
0	Lieut. Col. T. Colby	0	Major Edw. Moor
0	Hon. Lt. Gen. J. L. Cuming	0	Capt. R. Z. Mudge
0	Lieut. Gen. A. Dirom	0	Right Hon. Sir G. Murray
0	Lt. Gen. Sir R. Donkin 10	0	Col. Ch. W. Pasley . . 30
0	Major Gen. Sir H. Douglas	0	Col. R. E. Roberts
0	Major Gen. Sir B. D'Urban	12	Capt. Ed. Sabine
0	Capt. George Everett	0	Major Ch. H. Smith
0	Hon. Lt. Gl. T. W. Fermor	0	Lieut. Col. T. P. Thompson
0	Lt. Col. G. Fitzclarence 15	0	Lieut. Col. R. Torrens 35
0	Capt. James Franklin	0	Lieut. Col. Sir J. M. Tylden
0	Col. Sir A. S. Frazer	0	Sir Fred. B. Watson
0	Lt. Gen. Sir J. W. Gordon	0	Major Gen. A. G. Wavell
0	Major Gen. T. Hardwicke	0	Col. Mark Wilks. 39
0	Hon. Col. F. G. Howard 20		

TOTAL—28 contributions towards improving natural knowledge by 39 Army Officers.

TABLE V.

Clergymen who are Fellows of the Royal Society for 1830, distinguishing those who have contributed to the Philosophical Transactions.

0	Revd. Archibald Alison	0	Re v. J. P. Higman
0	— H. H. Baker	0	— R. Hodgson, D.D.
0	— F. H. Barnwell	0	— George Hunt 40
0	— J. H. Batten, D.D.	0	— J. D. Hustler
0	— W. F. Bayley 5	0	— P. Jennings, D.D.
0	— Miles Bland, D.D.	0	— W. Kirby
0	— Bewick Bridge, D.D.	2	— W. Lax
1	— W. Buckland, D.D.	0	— D. Lardner, LL.D. 45
0	— C. Parr. Burney, D.D.	0	— Francis Lunn
0	— E. J. Burrow, D.D. 10	0	— Daniel Lysons
0	— George Butler, D.D.	0	— J. W. Mackie
0	— Samuel Butler, D.D.	0	— J. Maddy
0	— Henry Card, D.D.	0	— T. R. Malthus. . . . 50
0	— W. H. Carr, B.D.	0	— E. Maltby, D.D.
0	— T. Caton, B.D. . . . 15	0	— Charles Mayo, B.D.
0	— J. S. Clarke, L.L.D.	0	— Robert Morison, D.D.
0	— Henry Coddington	0	— Robert Nixon, B.D.
0	— W. D. Conybeare	0	— J. Oldershaw, B.D. 55
0	— John Corrie	0	— T. Parkinson, D.D.
0	— Daniel Cresswell. . 20	0	— George Peacock
0	— Alexander Crombie	0	— W. Pearson, LL.D.
0	— James Cumming	0	— Baden Powell
0	— Martin Davy, D.D.	0	— Thomas Rackett . . 60
0	— W. Dealtry, D.D.	0	— George Rowley, D.D.
0	— Richard Dixon 25	0	— James Rudge, D.D.
0	— G. D'Oyly, D.D.	0	— T. Sampson, D.D.
0	— Henry Drury	3	— W. Scoresby
1	— Fearon Fallows	0	— J. B. Seale, D.D. 65
1	— George Fisher	0	— Adam Sedgwick
0	— Henry Fly, D.D. . . 30	0	— John Sleath, D.D.
0	— Josiah Forshall	0	— G. A. Thursby
0	— S. J. Gardiner	0	— J. M. Traherne
0	— E. Goodenough, D.D.	0	— W. Vernon 70
0	— John Hailstone	0	— Henry Walter, B.D.
0	— H. P. Hamilton 35	1	— W. Whewell
0	— R. Hamilton, D.D.	0	— Samuel Wix
0	— Henry Hasted	0	— Francis Wrangham 74

TOTAL—8 contributions towards improving natural knowledge by 74 clergymen; or 0.108 of a Paper each.

TABLE VI.

*List of Fellows of the Royal Society (1830) who are titled in the law, learned in the law, or practising the law.—Distinguishing those who have contributed to the Philosophical Transactions.**

0	J. Proctor Anderson	0	Henry Bellenden Ker
0	James Andrew, LL.D.	0	John Knowles
0	James H. Arnold, LL.D.	0	J. G. Shaw Lefevre 35
0	William Battine, LL.D.	0	Rt. Hon. Sir J. Mackintosh
0	Rt. H. Sir J. Beckett, Bt. 5	0	Ashhurst Magendie
0	John Bell,	0	James H. Markland
0	James E. Bicheno	4	William Marsden, LL.D.
0	Thomas Shaw Brandreth	0	John Thomas Mayne . . . 40
16	David Brewster, LL.D.	0	William Taylor Money
0	W. John Broderip 10	0	R. H. Sir J. Michell, LL.D.
3	Henry Brougham	0	Francis Palgrave
0	Sir W. Burroughs, Bart.	0	Rt. Hn. Sir R. Peel, D.C.L.
0	Sir C. E. Carrington, LL.D.	0	Louis Hayes Petit 45
0	G. L. Newnham Collingwood	0	John Delafield Phelps
0	R. H. J. W. Croker, LL.D. 15	0	David Pollock
0	Edward Robert Daniell	0	Frederick Pollock
0	Sir Ed. Hyde East, Bart.	0	John Reeves
0	Henry Ellis, LL.D.	0	Jesse Watts Russell, D.C.L.
0	John Gage	1	Sir J. Sewell, LL.D.
0	Mr. Baron Garrow 20	0	R. H. Sir J. Sinclair, D.C.L.
0	John Gillies, LL.D.	0	Sir J. F. Staunton, D.C.L.
0	Right Hon. Charles Grant	0	Sir E. Stracey, Bart. LL.D.
0	Henry Hallam	0	G. F. Stratton, LL.D. . . 55
0	Sir Thomas Hanmer	0	Charles Tennyson
0	John S. Harford, LL.D. 25	1	John Lewis Tiarks
0	William Harrison	0	Sir Charles Wetherell
0	George Harrison	0	John Wishaw
0	Robert Holford	2	Charles Wilkins, LL.D. 60
0	W. Jackson Hooker, LL.D.	0	Sir J. E. Wilmot, bt. D.C.L.
0	Sir R. H. Inglis, Bt. LL.D. 30	1	Sir Giffin Wilson
0	Joseph Jekyll	0	Rt. Hn. C. W. W. Wynn 63
0	Sir Alexander Johnston		

TOTAL—28 contributions towards improving natural knowledge by sixty-three men of law, or $\frac{2}{5}$ of a paper each.

* It is likely that some errors, particularly of omission, may have crept into this List. On consulting three or four eminent lawyers for information, which was communicated freely and carefully, I found that it is no easy matter to ascertain, out of a large number of persons, those who have made law their study or profession, as this profession is not like divinity or medicine, always marked by a distinguishing initial or other character.

TABLE VII.

Physicians who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

0	B. C. Babington	1	D. Hosack
0	W. Babington	4	J. R. Johnson
0	C. Badham	2	J. Kidd
0	A. Baird	1	J. Latham
0	J. Baron 5	0	J. Latham (alter) 45
0	W. Beatty	1	W. E. Leach
0	J. Blackman	1	R. Lee
1	G. Blane (Sir)	2	J. Macartney
1	J. Bostock	0	J. Macculloch
0	R. Bree 10	0	J. Macgregor 50
0	R. Bright	0	W. Macmichael
0	J. Burns	0	E. Magrath
0	J. Butter	0	W. G. Maton
0	W. F. Chambers	0	G. P. Morris
0	C. M. Clarke 15	0	W. Nicholl 55
0	J. Cooke	0	J. A. Ogle
0	A. Crichton (Sir)	0	J. A. Paris
1	R. W. Darwin	1	C. H. Parry
0	C. Daubeney	0	L. Pepys (Sir)
13	J. Davy 20	7	A. P. W. Philip 60
0	W. T. Edwards	0	J. C. Pritchard
0	J. Elliotson	4	W. Prout
0	J. Fellowes	0	J. Richardson
0	S. Ferris	0	E. Roberts
0	W. H. Fitton 25	0	J. Rogerson 65
0	J. Forbes	2	P. M. Roget
0	R. Fowler	0	C. Scudamore (Sir)
0	J. Frank	0	J. Sims
0	W. Franklin (Sir)	0	H. H. Southey
1	G. S. Gibbes (Sir) 30	0	J. Storer 70
3	A. B. Granville	0	A. R. Sutherland
0	T. Gray (Sir)	2	T. Thomson
0	H. Halford (Sir)	0	J. Thomson
1	J. Harwood	0	G. L. Tuthill (Sir)
0	A. Hay 35	2	A. Ure 75
2	W. Heberden	0	N. Wallich
10	W. Henry	0	P. Warren
1	H. Holland	0	G. D. Yeates
2	T. C. Hope	0	J. Yellowly 79
0	F. Horsfield 40		

TOTAL—66 contributions towards improving natural knowledge by 79 M.D.'s.

TABLE VIII.

Surgeons who are Fellows of the Royal Society, distinguishing those who have contributed to the Philosophical Transactions.

3	J. Abernethy	2	H. Earle
5	Ch. Bell	0	J. H. Green
1	W. Blizard, (Sir)	0	G. J. Guthrie
6	B. C. Brodie	109	E. Home, (Sir)..... 15
0	J. Brooks..... 5	0	A. C. Hutchison
0	S. D. Broughton	0	H. Mayo
7	A. Carlisle, (Sir)	0	T. S. Pettigrew
0	J. G. Carpue	0	E. Stanley
2	A. P. Cooper, (Sir)	1	H. L. Thomas..... 20
1	R. B. Cooper..... 10	0	B. Travers..... 21
0	Ph. Crampton		

TOTAL—137 contributions towards improving natural knowledge by 21 surgeons, or, more properly speaking, nearly $\frac{4}{5}$ of the 137 contributions by one surgeon, and $\frac{1}{5}$ by twenty surgeons besides.

As one would naturally look for the greatest share of practical science in the two last classes of fellows, particularly of those branches which are connected with the profession of the fellows—and as their admission into this scientific body may be supposed to have taken place, at those times, in which they had acquired most reputation, or had contributed most to the object of that Society which admitted them—it will be curious to examine the seniority of their admission and compare it with the number of their contributions or quantity of scientific attainments, as specified in the two last alphabetical lists. We shall then see that those have been most eager to get into the Society, and by the inertness of its laws and regulations, succeeded in their object, who have done nothing—whereas, many who have worked year after year in the field of science were purposely kept back, and dared not oppose the current of professional jealousies, antipathies, and partialities which stared them in the face, and which not unfrequently, when braved, have been successful in casting the stain of a black ball on the names of one or two of the most distinguished individuals.

I need not more pointedly allude to their names. They will suggest themselves readily to those versed in the manœuvres of some of the frequenting members of the ordinary meetings of the Society.

TABLE IX.

Seniority List of the Physicians who are Fellows of the Royal Society.
(1830.)

1773.	1801.
J. Latham, M.D. (Ornithologist).	J. Latham, M.D.
1778.	1802.
A. Hay, M.D.	R. Fowler, M.D.
1779.	1805.
J. Rogerson, M.D.	Wm. Babington, M.D.
1780.	G. P. Morris, M.D.
Sir Lucas Pepys, M.D.	1808.
1784.	R. Bree, M.D.
Sir Gilbert Blane, M.D.	1809.
1788.	W. Henry, M.D.
R. W. Darwin, M.D.	1810.
1791.	Sir H. Halford, M.D.
Wm. Heberden, M.D.	T. C. Hope, M.D.
1794.	Sir G. L. Tuthill, M.D.
J. Blackman, M.D.	1811.
1796.	J. Macartney, M.D.
G. S. Gibbes, M.D.	T. Thomson, M.D.
1797.	1812.
S. Ferris, M.D.	Ch. H. Parry, M.D.
1799.	1813.
E. Roberts, M.D.	P. Warren, M.D.
1800.	1814.
Sir A. Crichton, M.D.	J. Davy, M.D.
W. G. Maton, M.D.	J. Sims, M.D.
	J. Yellowly, M.D.

1815.

W. H. Fitton, M. D.
 Sir T. Gray, M. D.
 H. Holland, M. D.
 P. M. Roget, M. D.

1816.

J. Fellowes, M. D.
 D. Hosack, M. D.
 W. E. Leach, M. D.
 Sir J. Macgregor, M. D.
 J. Storer, M. D.

1817.

A. B. Granville, M. D.
 J. Rawlins Johnson, M. D.
 W. Machmichael, M. D.

1818.

C. Badham, M. D.
 W. Beatty, M. D.
 J. Bostock, M. D.

1819.

G. Magrath, M. D.
 W. Prout, M. D.
 G. D. Yeats, M. D.

1820.

Sir W. Franklin, M. D.
 J. Macculloch, M. D.

1821.

R. Bright, M. D.
 J. Cooke, M. D.
 J. Frank, M. D.
 J. A. Paris, M. D.
 A. Ure, M. D.

1822.

J. Butter, M. D.
 Ch. Daubeney, M. D.
 J. Kidd, M. D.

1823.

J. Baron, M. D.

1824.

Sir Charles Scudamore, M. D.
 J. Thomson, M. D.

1825.

Ch. M. Clarke, M. D.
 J. Richardson, M. D.
 H. H. Southey, M. D.

1826.

J. A. Ogle, M. D.
 A. P. W. Philip, M. D.

1827.

J. Harwood, M. D.
 J. C. Pritchard, M. D.

1828.

B. G. Babington, M. D.
 A. Baird, M. D.
 W. F. Chambers, M. D.
 T. Horsfield, M. D.
 A. R. Sutherland, M. D.

1829.

W. T. Edwards, M. D.
 J. Elliotson, M. D.
 J. Forbes, M. D.
 N. Wallich, M. D.

1830.

J. Burns, M. D.
 R. Lee, M. D.
 W. Nicholl, M. D.
 E. Turner, M. D.

TABLE X.

Seniority List of the Surgeons who are Fellows of the Royal Society.
(1830.)

1787.	1819.
Sir W. Blizard.	J. Brookes.
Sir E. Home.	1822.
1796.	H. Earle.
J. Abernethy.	1825.
1802.	J. H. Green.
Sir A. Cooper.	1826.
1804.	Ch. Bell.
Sir A. Carlisle.	1827.
1806.	G. J. Guthrie.
H. L. Thomas.	T. J. Pettigrew.
1809.	1828.
B. C. Brodie.	H. Mayo.
1813.	A. C. Hutchison.
B. Travers.	1830.
1817.	S. D. Broughton.
J. C. Carpue.	R. B. Cooper.
P. Crampton.	E. Stanley.

Of the 79 doctors in physic, who are at present Fellows of the Royal Society, it would appear then, that, only 23 have contributed to the Philosophical Transactions, and of this number 10 only are resident in the metropolis, the other 13 Fellows being constant sojourners in the country. The papers which these ten metropolitan physicians have produced, out of the total of 66 above quoted, and which have been published, are 23 in number. The rest have been communicated by the 13 provincial physicians constituting, with the former 10, the total of *efficient* fellows of the Royal Society whose profession is medicine. Here then is a glaring example of the indifference with which almost any claimant is suffered to

enter the Society. The mischief which is produced by such a practice is manifested in the apathy of the really scientific men, who cease to take any interest in the welfare of an association of individuals so constituted. A certain quantity of scientific knowledge, observes Mr. Babbage, is of course possessed by many individuals in many professions, and to that of medicine a knowledge of chemistry, and of some branches of natural history, and indeed of several other departments of science, affords useful assistance; but it is obvious that this quantum of knowledge may become, when separated from the profession, quite insignificant as the basis of scientific reputation. If this be true, and who can doubt it, then the indiscriminate practice of raising physicians by the dozen to the dignity of members of a society for which the chief qualification ought to be scientific reputation, independent of professional character—in spite of the known fact, that such physicians have not the smallest pretension to pure scientific knowledge beyond what forms the common elements of the profession which gives them bread—may be justly considered as one of the causes of the decline of the Royal Society. Still more injurious must such a practice prove, when physicians, who have never offered to contribute the smallest particle of scientific information to the Society, or to the world at large, are allowed to present themselves, as candidates for an honour which they have not deserved—for which they do not even urge any plausible pretension—and when it is manifest to the whole Society, that such candidates cannot prove either “useful” or “valuable members thereof.”

Of the fellows and licentiates of the Royal College of Physicians in London there are 226 who actually practise in the metropolis, and ten only of that number have given proofs of cultivating science for its sake, and even they, with two or three exceptions, have not acquired a purely scientific reputation by their labours. See then how trifling is the measure

of scientific merit in the medical profession ; yet, through the prevailing absurd practice of relying, as to the reality of the claims of candidates, upon a mere certificate, which, it has been proved, may be obtained by any one and at any time, not fewer than 66 out of the 226 physicians practising in London have been placed on the same rank as F.R.S. with individuals who have far other claims to the dignified appellation of scientific men. The whole concern, in good truth, is a complete farce; and my astonishment is, that when such elections take place the electors do not burst out in roars of merriment at the solemnity, with which the secret votes are collected in behalf of a candidate, whose whole known tenor of life is in overt contradiction with the professions and descriptions read aloud, and with due pomp, by one of the secretaries.

The number of surgeons who are to be found on the list of the Royal Society is a curious contrast to that of the physicians in many respects—it is smaller by 48—it contains only one member who is not resident in the metropolis—has produced more than double the number of scientific communications to the Philosophical Transactions—and boasts of not fewer than 15 hospital surgeons, most of whom are in the first practice, and have acquired a high character, both in England and on the Continent, for their scientific attainments. But how is it, that while M.D.s crowd upon the list of the Royal Society, the M.C.S.s are like “*rari nantes*” in that over-swelling ocean of F.R.S.s? Why do we not see figure by the side of this small band of metropolitan surgeons in our Society a few of the truly eminent surgeons of provincial hospitals? Those can best answer these interrogatories who have managed our affairs since the beginning of the present century, and none better than the “noisy ones.”

After such a picture of the medico-chirurgical section of our list, who can abstain from suggesting to the Society the propriety of putting a stop, for the present, to the election

of doctors of physic, except under circumstances of the most manifest eminence for science in the candidate? This will gradually restore to the initials of F.R.S., when accorded to a physician, the dignity and value they have lost; while, with a view to maintain intact the existing respectability of our fellows who are surgeons, it should be resolved that none other shall be balloted for who has not distinguished himself for extraordinary operations, or brilliant and useful literary or scientific productions, whether resident in town or in the country. Woe to the present 21 surgeons, if they from supineness suffer any candidate to be added to their number whose claim to that distinction is far different from their own;—and still more, woe to their character, if such unworthy additions be made, hereafter, through the influence of their own names inconsiderately tacked to certificates for ballot.

TABLE XI. AND LAST.

Of the Fellows of the Royal Society who are not included in any of the preceding Tables, distinguishing those who have contributed to the Philosophical Transactions.

0	Thomas Allan	0	William Blane
3	William Allen	0	Richard Blanshard
0	Thomas Amyot	0	Thomas Blizard
7	Charles Babbage	0	George Simon Borlase
1	Francis Baily	0	Samuel Bosanquet
0	William John Bankes	0	Sir Wm. Ed. Rouse Boughton
0	Peter Barrow	0	Right Hon. Wm. Sturges Bourne
0	Edward Barnard	0	Hon. Courtenay Boyle
0	Rev. Frederick Henry Barnwell	12	William Thomas Brande
0	John Barlow	0	William Bridgman
2	Francis Bauer	1	Sir Edward Ffrench Bromhead
1	John Bayley	0	Sir A. Brooke de Capell Brooke
0	Henry Beaufoy	0	Henry James Brooke
0	Henry Thomas De-la-Beche	0	Nicholas Brown
0	William Beetham	0	Robert Brown
0	Thomas Bell	0	Henry Browne
0	John Laurens Bicknell	0	Mark Isambard Brunel
0	Robert Bingley	0	William Archibald Cadell
0	John Blackburne	0	John Caley
0	William Blake	0	William Camac
0	Michael Bland	0	Rt. Hon. Reginald Pole Carew

0	Hon. & Rev. Richard Carleton	1	John Griffiths
0	Nicholas Carlisle	3	Stephen Groombridge
1	Joseph Carne	0	John Guillemard
0	John Carstairs	0	Hudson Gurney
0	Francis Chantrey	0	Thomas Henry Hall
0	Lewis Andrew de la Chaumette	0	Sir James Hall
3	John George Children	0	John Hall
10	Samuel Hunter Christie	0	Archibald Hamilton
0	Loftus Longueville Clarke	0	William Richard Hamilton
0	William Stanley Clarke	0	Francis George Hare
0	Sir George Clerk	2	George Harvey
2	William Clift	0	Henry Harvey
0	Henry Thomas Colebrooke	16	Charles Hatchett
0	Sir James Edward Colebrook	0	Graves Chamney Haughton
0	William Cotton	0	Edwards Hawkins
0	John Crawford	0	John Hawkins
0	Sir John Croft	0	John Hawkins
2	John Dalton	0	Robert William Hay
1	John Frederick Daniell	0	George Craufurd Heath
1	John Francis Davis	1	Henry Hennell
0	Richard Hart Davis	12	John Fred. William Herschel,
2	Edmund Davy	0	George Hibbert
0	John Dickenson	0	Philip Hills
0	Lewis Weston Dillwyn	0	Charles Hoare
1	George Dollond	0	Henry Hugh Hoare
0	William Robert Keith Douglas	0	Sir Richard Colt Hoare
0	Sir George Duckett	0	Sir Benjamin Hobhouse
0	Alexander Duncan	0	John Cam Hobhouse
0	Lovell Edgeworth	0	Thomas Hoblyn
0	Neil Benjamin Edmonstone	0	Thomas Hope
0	Sir William Elford	0	Leonard Horner
0	Sir William Francis Elliott	1	James Horsburgh
0	Hon. G. J. Welbore Agar Ellis	0	Rt. Hon. R. J. Wilmot Horton
0	John Ellis	1	Luke Howard
0	Henry Ellis	0	Sir Abraham Hume
8	Michael Faraday	0	Joseph Hume
0	Robert Fergusson	7	James Ivory
0	Rt. Hon. Wm. Vesey Fitzgerald	0	William Jacob
0	William Nairn Forbes	0	Robert Jameson
2	Henry Foster	0	Richard Paul Jodrell
1	Sir Thomas Frankland	24	Thomas Andrew Knight
0	William Franks	1	Charles König
0	Capriano Ribeiro Freire	0	Aylmer Bourke Lambert
0	Samuel Galton	0	Thomas Legh
0	Sir William Gell	0	Sir Charles Lemon
2	Davies Gilbert	0	Rt. Hon. Thos. Frankland Lewis
5	John Goldingham	0	John Lindley
0	Isaac Lyon Goldsmid	0	John Liptrap
3	Benjamin Gompertz	0	Edward Hawke Locker
0	George Trenchard Goodenough	0	Sir John William Lubbock
0	Thomas Gordon	0	John William Lubbock
0	Right Hon. Henry Goulburn	0	Edmund Henry Lushington
0	Lewis Alexander Grant	0	Charles Lyell, jun.
0	Richard Wilson Greatheed	0	Zachary Macauley
1	Thomas Greatorex	0	Charles Mackenzie
0	George Bellas Greenough	0	Sir George Stewart Mackenzie
0	Richard Gregory	0	William Alexander Mackinnon

0	Charles Macintosh	0	John Sharpe
0	Alexander Mac Leay	0	Charles Short
0	Ebenezer Fuller Maitland	0	Sir Francis Shuckburgh
0	Lewis Majendie	0	Richard Simmons
0	Gideon Mantell	0	John Smirnové
0	Thomas James Mathias	0	John Spenser Smith
0	John Maxwell, Esq.	0	Joseph Smith
0	Alexander Melville	0	Robert Smith
0	César Moreau	0	Sir William Smith
0	Charles Morgan	0	William Smith
7	William Morgan	0	Thomas Snodgrass
0	James Morier	0	John Soane
0	Roderick Impey Murchison	0	Richard Horsman Solly
0	Thomas Murdoch	0	Samuel Solly
0	William Chadwell	0	Samuel Reynolds Solly
0	Macvey Napier	0	William Sotheby
0	Sir George Nayler	3	James South
0	Sir Thomas Neave	0	William Speer
0	Charles Savill Onley	0	John Spencer Stanhope
0	George Ormerod	0	Sir John Thomas Stanley
0	Right Hon. Sir Gore Ouseley	0	John Robert Steuart
0	Woodbine Parish	0	William Ford Stevenson
0	Thomas Lister Parker	0	Sir Walter Stirling
0	William Pearson	0	Charles Stokes
0	George Pemberton	0	Anthony Mervin Reeve Storey
0	Edward Wm. Wynne Pendarves	0	Hon. W. T. H. Fox Strangways
0	Richard Penn	0	William Strutt
0	David Pennant	0	George Holme Sumner
6	William Hasledine Pepys	0	William Swainson
0	Roger Pettiward	0	Sir John Edward Swinburne
0	Sir Thomas Phillipps	0	John Symmons
1	Richard Phillips	0	John Taylor
0	Thomas Phillips	0	George Watson Taylor
0	Lewis Pinto de Souza Coutinho	0	Thomas Telford
0	William Morton Pitt	0	James Thomson
0	Sir George Pocock	0	John Deas Thomson
0	William Pole	0	Rt. Hon. Sir Edward Thornton
19	John Pond	0	Robert Stearn Tighe
0	John Ramsbottom	0	William Edward Tomline
0	William Rashleigh	0	Peregrine Edward Towneley
1	George Rennie	0	George Townley
0	John Rennie	0	John Trotter
0	Charles Milner Ricketts	1	Edward Troughton
0	John Rickman	0	Charles Augustus Tulk
0	Stephen Peter Rigaud	0	Peter Evan Turnbull
4	William Ritchie	0	Dawson Turner
1	James Robertson	0	Charles Hampden Turner
0	Samuel Rogers	0	Samuel Turner
0	Edward Rudge	0	William Vaughan
0	Joseph Sabine	0	Baron Nicholas Vay de Vaja
0	Sir John St. Aubyn	0	Nicholas Aylward Vigors
0	George Saunders	0	John Henry Vivian
0	Henry Barne Sawbridge	0	Sir Richard Rawlinson Vyvyan
2	John Corse Scott	0	James Walker
0	George Poulett Scrope	0	Henry Warburton
3	Sir Robert Seppings	0	John Ashley Warre
0	Richard Sharp	0	Right Hon. Sir Geo. Warrender

0	Sir Frederick Beilby Watson	3	John Lloyd Williams
0	James Watt	0	John Williams
1	Thomas Weaver	0	Glocester Wilson
0	Frederick Webb	0	William Wix
0	John Weyland	0	Alexander Luard Wollaston
3	Joseph Whidbey	0	William Wood
0	Sir Robert Wigram	0	Right Hon. Chas. Philip Yorke
0	George Wilbraham		

Total 187 contributions, towards "improving natural knowledge," by 286 Fellows of the Royal Society, who follow no particular profession, clerical, medical, or legal, but some of whom are engaged in trade, in the mechanical and the fine arts; and a few are teachers of science or literature: being a proportion of contributions by each such Fellow = to 0,6538 of a paper in the Philosophical Transactions.

From the perusal of the preceding documents, my readers will rise with the full conviction that, in the election of its members, the Society has not often considered the real interests of science, or its dignity as a scientific body. Few, very few indeed, of the several hundred fellows classed in the manner I have exhibited them to the public, had not, when elected, or have even at this moment, any pretension to be considered as scientific men—few who could be expected to become useful and valuable members—few who cared for the admission, except as it conferred on them an appellation which it was at one time the custom to look upon as honorable.

I bestowed as much pains, as I did in the construction of the other tables contained in this Expostulation, upon the drawing up of a chronological enumeration of those individuals who, at the time of their election into the Royal Society, as well as subsequently, enjoyed, by common consent, the character of scientific men, as well for their printed works or memoirs, as for their communications to the Philosophical Transactions; or for their well-known and acknowledged personal labours in the field of science—distinguishing the branches of science to which they had principally directed their attention. But when I had completed and scrupulously examined my list—and even submitted it to the judgment of one or two friends, well acquainted with what is usually denominated

the scientific world, in order neither to omit any name who might be truly deserving of the honor of being enrolled in so distinguished a catalogue, nor place upon it the names of persons who carry about with them a certain kind of reputation as scientific men, without ever having done one act, or uttered a thought, recorded afterwards, or worthy to be recorded, in the pages of the history of science ; I found that the work repaid not its trouble, and that, were I to give publicity to so much poverty of genius among the fellows, by bringing forward the rare exceptions amongst them, I should be exciting unpleasant feelings, without producing an equivalent beneficial result. Among the recruits, in particular, with which the ranks of the Royal Society have been swelled, of late years, from five to seven hundred fellows, it would have been difficult indeed to have singled out more than half-a-dozen of hard-working, inquiring, and experimental men of science who have rendered themselves conspicuous by their labours, and have added to the scientific character of their nation no mean increase of lustre. A few more I might have selected, besides, whose only claim was a single paper, read at the Society, of which they were soon after made members, even when that paper *had been deemed by the Council* unworthy of appearing in the Transactions. But by far the greater number of the late elections, had I pursued my plan, would have been found to have consisted of individuals who had not even thought it worth their while to write a single paper before they claimed to enter the *sanctuary* of science.

Now it would have been far from a pleasing task to have brought to light, in a more distinct manner than the public seem to be already aware of, all this comparative deficiency, by the enumeration of persons classed according to individual merit.

Again, I found that when I came to affix a distinctive character to each "fellow," by denoting the branch of science

with which his name was more commonly associated—a very great number, even of my selected “fellows,” could not conscientiously be distinguished by any specific title in my tabular enumeration; while, on the other hand, there were arranged on my list several, whose pursuits seem to mark them out as astronomers, mathematicians, experimental philosophers, chemists, naturalists, and physicians—but whose labours, in those respective branches of science, have been too insignificant to merit being singled out from the rest. On the whole, therefore, I thought it better to omit my comparative catalogue of “single and double stars” in our firmament of science, than to expose, by their enumeration, their individual want of lustre, and the total darkness, besides, which surrounds them, and which they were insufficient to illumine. Conscientiously I could not, without detriment to science, have selected from among those fellows who have been elected since the first year of the present century, more than thirty really illustrious men of science, whose names will be pronounced with the same respect by posterity, with which they have been or are looked upon by their contemporaries. Two Davys, a Brinkley, a Playfair, a Marcet, a Henry, a Cooper, a Chenevix, a Troughton, a Brown, a Herschel, two Brunnels, a Kater, an Ivory, a Brewster, a Babbage, a Malthus, a Bostock, a Prout, a Dollond, a Watt, a Dalton, a Bailey, a South, a Clift, a Barlow, a Faraday, a Christie, a Bell, a Wilson-Philip, and a Lindley, form the glorious band, out of the hundreds of elected “fellows” in the present century. Their labours have not only strengthened the domain, but likewise extended the boundaries of science. The rest are either mere lookers on—indifferent spectators—or, at most, cultivators of what beds of flowers they found in the rich garden of natural knowledge when they first entered it. Some of the latter, a few truly, have been more assiduious than others, but they have reared no new tree

of knowledge, nor expanded the branches of those already planted, nor enriched the beds on which they found those trees luxuriating.

In the last few years more especially, the “elect” have been of the latter description, with two or three exceptions; and however respectable (and they are most decidedly so) those “elect” may be as private individuals, they have not brought to the common stock either the influence of name, the influence of industry, or that of an inquiring spirit.

Thus far as to the structure and composition of the Royal Society. We will now proceed, upon the same plan of collating facts, to consider what this Society has effected in behalf of science, or, in other words—what have been its contributions to general science, or to any branch of it, since the beginning of the 19th century. Here, again, I shall produce the result of my inquiries into official documents. The measure of the labours of the Royal Society may be said to be found in its Transactions; but as the Transactions do not exhibit a correct view of all the labours of the fellows, many of which have been rejected without assigning any ground, it becomes necessary to go a little more behind the scenes, in order to judge correctly of the extent of contributions which scientific men have forwarded to the Royal Society, and ascertain what has been their result. This general view of the labours of all those who addressed papers to the Royal Society, I have been able to form by the careful examination of the official records kept in the archives of the Society, and open to the inspection of every member. In giving publicity, for the first time, to the result obtained from such an examination, I conclude that I am doing service to science; and that I assist the public in forming a just estimate of the manner in which the interests of science have been treated by those who, for a succession of years, have secured to them-

selves the sole management of the Society. I shall detail facts—and the facts must speak for themselves.

In the course of thirty-one years—that is from the latter end of 1799, to June 1830, one thousand memoirs or written communications were presented to the Society; and after having been read at the ordinary meetings of the fellows, either wholly or in part, were submitted to the judgment of a “committee of papers,” whose duty it is to determine whether such memoirs or written communications shall be printed in the Transactions or not. This committee of papers consist of members of the council who assume the adjudicative functions respecting every communication sent in, no matter of what nature or description. The manner in which these councilmen determine the fate of such communications is by ballot. The result of their deliberation is then recorded in a book of minutes kept for that purpose; and the nature of that result is specified in the minutes by certain laconic formulæ of expression, without one particle of reason or ground being alleged, at the same time, for the recorded decision of the committee. Thus, a paper is either “postponed,” (that is the consideration of it) or is not considered (an expression which appears to have crept in only of late years). It occasionally happens that “postponed” papers are at last rejected, or never mentioned after—but the number of them is so small that I have not taken them into separate account, but classed them with some of the rest. Again, a paper has been ordered to be deposited in the “archives” of the Society—or it has been ordered “to be printed”—or “not to be printed.” In one or two instances, during a period of thirty-one years, a MS. communication to the Society has been directed “to be handsomely bound and placed in the library of the Society.” The last expressions which I found employed in noticing the fate of a paper before this secret tribunal, speak sufficiently

for themselves. These are "withdrawn," or recommended to be "withdrawn."

There is reason to believe that, although the papers are finally subjected to the opinion of all the attendant members of the said committee, of whom, sometimes several, at other times, very few only are present, every communication is supposed to have been previously put into the hands and referred to the judgment of some competent member who reports his opinion, and then leaves the committee to deal with the paper as they may think fit. Vastly objectionable as such a course may seem on many accounts, it would still be better than to have recourse to a more summary proceeding, were it oftener adopted. But I have heard it asserted that much oftener is the fate of a paper committed to the chances of the mere yea-and-nay box, than to the decision of a competent judge instructed to offer a preliminary opinion upon its merits.

Now were it possible that the members of such a committee should be conversant with all the infinite varieties of scientific subjects touched upon in the papers submitted for their adjudication—the ordeal to which those papers would be thus exposed, might be considered the fairest that any author could expect; provided always that he were at the same time protected against partialities and hostilities. But it so happens that at many of these meetings, members of the committee of papers have been present who have not the smallest pretension to any knowledge whatever of the subject under consideration, or indeed to science in general; and therefore give their opinion respecting the propriety or impropriety of publishing a paper read before the Royal Society, without being *judices in materiâ*. What the consequences of so clumsy an arrangement must be need scarcely be pointed out. After inspecting the records of the last thirty-one years to which I allude, I am lost in astonishment that those consequences

should not have been more injurious, more ridiculous, or more frequent. For assuredly it cannot be expected that a sculptor for instance, a painter, a secretary to the Admiralty, an astronomer royal, and a botanist, congregated together, should come to a right decision respecting the propriety of publishing a paper on phisiology or internal anatomy! Yet such things have come to pass.

It has, from time to time, happened that papers of great importance, and concerning some of the higher branches of natural philosophy, mechanics, chemistry, &c. have been postponed from meeting to meeting, and for months together, for want of members qualified to judge of their real or intrinsic value. In one case which I shall quote, this method of postponement led to a curious conclusion. A paper was taken into consideration at one meeting in 1809, "on the progress of floating bodies in stream." There were, besides the president, eight members present; and of this number the illustrious Cavendish was one, who, with Wollaston and the late Mr. Rennie, were the only members of the committee capable of determining the value of such a paper; although even Wollaston, I believe, was but indifferently versed in the science of hydraulics. Well, the fate of the paper at that meeting was postponed, because (say the minutes) "the negative and the affirmative votes were equal." At the next meeting, three of the former jurors were absent, and two new ones—the one a doctor of physic, now no more, were added; making the total number present less, by one, than on the former occasion. The question of printing the paper was then put, but was lost. The paper has since been admitted to be a curious and clever performance—and the author, a captain in His Majesty's fleet, had acquired the character of a scientific man—so much so, indeed, that after the rejection of the paper, he was elected into the Royal Society, at which, however, he refused to be admitted.

had they not admitted some of the papers which appear now in the Transactions, but which are fit only for insertion in magazines and other periodical publications. Could a committee, containing only one physiologist, have judged rightly in rejecting a paper on the relation between the sanguiferous and nervous system by one of the most industrious physiologists in England? Could they have been right in voting, without the assistance of a single anatomist or natural historian, a paper not to be printed which was written by an anatomist to whom one of the royal medals has since been awarded, and entitled "on the proportions and measurements of the head, and varieties in the form of the bones of the cranium and face? When a memoir entitled "A new method of calculating the value of life annuities," read before the Royal Society, was rejected, there were only three members out of ten who could be judges of the matter under consideration. The intelligent author of the work on which I have commented at length in these pages may well complain that his "problems relating to games of chances" had not met with the consideration it deserved. Well may the two last-mentioned scientific "fellows" complain of a system which could work such important results, and well may they muster strong in the rank of its most strenuous opponents. What grounds could the committee of papers have gone upon, when, with an insufficient number of competent judges present, they decided on rejecting the memoir of the Assistant Professor at the Veterinary College, in which he announced his newly-discovered method of radically curing chronic lameness in the horse—and at another period, in ordering to be "deposited in the Archives" of the Society, a paper on the composition, nature, and use of certain disinfecting liquids, by the author of three other memoirs published in the Phil. Transactions? Grounds they had none, for no fact has been more triumphantly established than the discovery contained in the first paper; while the second

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[illegible]

ANALYTICAL AND NUMERICAL TABLE

Of all the Papers that have been read before the ROYAL SOCIETY, from the beginning of the present Century up to the current Year (1830)—distinguishing each Branch of Science on which the Papers were written, and the Number of them in each Branch for every Biennial period—noting those that have been published in the Phil. Transactions with the letter A (accepted), and those that have not been printed, or were withdrawn, or simply deposited in the Archives of the Society, with the letter R (rejected).

YEARS of the 19th Century.	Higher Mathematics.	Algebra.	Geometry & Geodesy.	Hydrodynamics.	Astronomy.	Mechanics—including Naval Architecture.	Exp. Philosophy, includ- ing Optics, Dynamics, Barom. and Thermom. Observations, Pendu- lums and Magnetism.	Chemistry.	Mineralogy—Geology— Metallurgy & Fossilology	Natural History, includ- ing Physical Geography.	Anatomy.	Physiology.	Vegetable Physiology.	Medicine.	Surgery.	TOTAL of Papers read, on all Subjects collec- tively, in each Biennial Period.
1801 } 1802 }	2A	1A	2A 1R		5A 15R	1A 1R	8A 3R	9A 2R	5A	8A 2R	1A	2A	1A	1R	2A	72, of which 25 R.
1803 } 1804 }					6A 3R	1A	3A 3R	8A 2R	5A	2A 1R	2A	1A 1R	4A			42, of which 10 R.
1805 } 1806 }	4A 1R	1A	2R		5A 3R	2R	8A	6A	6A 2R	2A 1R	5A 3R	2A	4A			57, of which 14 R.
1807 } 1808 }	1A		2A	1A	5A 2R	2R	3A 2R	12A	4A 1R	2A	2A 2R	3A 1R	4A			49, of which 10 R.
1809 } 1810 }	2A 1R			1A 3R	2A 1R	3A 1R	5A 3R	10A 1R	4A 1R	3A 2R	3A	7A	2A	3A 1R	1A	60, of which 14 R.
1811 } 1812 }	1A 2R		2A 1R		5A	2A	2A 3R	11A	4A	3A	1A 2R	5A 5R	2A	1A 1R	1R	54, of which 15 R.
1813 } 1814 }	3A				11A	7A	9A 1R	21A 1R	4A	4A 1R	2A 1R	6A 2R	1A	1A 1R		76, of which 7 R.
1815 } 1816 }	5A	1A		3A 2R	3A	1R	10A 3R	12A 5R	3A	5A	2A 1R	6A 4R	1A	2A 2R		71, of which 18 R.
1817 } 1818 }	4A 3R	1A			10A	2A	11A 3R	6A 3R	2A 1R	9A 2R		2R	6A 1R	2A 2R	1A 1R	74, of which 20 R.
1819 } 1820 }	4A 3R			1A	2A	4R	13A 3R	4A 1R	2A	5A 3R	4A 2R	4A 1R	1A 2R	1R	1A	61, of which 20 R.
1821 } 1822 }		1R	1A		7A 2R	3A	14A 6R	11A	3A 1R	9A	4A 3R	8A			1A 1R	75, of which 14 R.
1823 } 1824 }		1R		1A	15A 2R		14A 5R	9A 2R	6A 2R	5A 3R	4A	2A 1R	1R	4A		77, of which 17 R.
1825 } 1826 }	3A		1A	2A	6A 5R	3A 1R	18A 8R	6A 1R	1A 1R	6A 1R	3A 2R	5A 1R			1A	75, of which 20 R.
1827 } 1828 }	1A			1A	11A 1R	2A	17A 8R	6A 5R		7A 1R	2A 2R	1A	1R			66, of which 18 R.
1829 } 1830 }	1A 1R		2A 1R	1R	2A 1R	2A 1R	24A 4R	5A 3R		1A 1R	4A 2R	4A 3R		1R	3R	67, of which 22 R.
TOTAL of Papers in each Branch for 30 Years.	31A 12R T. 43.	4A 1R T. 5.	10A 5R T. 15.	10A 6R T. 16.	95A 35R T. 130.	26A 13R T. 39.	159A 55R T. 214.	136A 26R T. 162.	49A 9R T. 58.	71A 18R T. 89.	39A 22R T. 61.	62A 20R T. 82.	22A 6R T. 28.	12A 9R. T. 21.	6A 7R T. 13.	GENERAL TOTAL. 732A } 244R }976

Average Number of Papers printed yearly $24\frac{1}{2}$, ditto of Papers rejected yearly $8\frac{1}{10}$.

therefore, there were

paper alluded to has since been commended by a much abler chemist than any of those who judged in the committee, viz. the Assistant Professor of Chemistry at the Royal Institution. I repeat, therefore, grounds the committee had none; but there were motives.

But enough of this ungrateful subject. Proceed we now to inquire, analytically, into the claims which the Royal Society may be supposed to possess to the respect of the scientific men of Europe—by examining which branch of science seems to have been most cultivated under its auspices—the individual amount of contributions made by the fellows to each of the branches—and the number of such contributions as have been deemed unworthy of a place in the volumes of the Royal Society in the respective classes of scientific investigation. All this will be seen at once in the annexed Table.

There is another point of view in which the Royal Society must be considered, while we are on the subject of its usefulness and activity in promoting or encouraging science, and that is, the power it possesses of awarding certain medals to those scientific men, whether English or foreign, who by their labours have distinguished themselves most, in the course of the year preceding that on which the award is made. Besides this power, the Royal Society has also the means of encouraging, in their pursuits, those who cultivate natural philosophy—and animal physiology—or who apply themselves to the consideration and study of those singular and mysterious questions, “light and heat”; by affording to the two first an opportunity of publishing to the scientific world their discoveries, by lectures read before the Society at large, which are afterwards rewarded by pecuniary acknowledgments—and by bestowing on those who have written on the last mentioned subject specific medals founded by one of the Fellows.

Of the Medals within the gift of the Royal Society two are of ancient and two of recent foundation. The former are, 1st, the Copley medal, founded on the donation of Sir Godfrey Copley, who distinctly ordained that a gold medal, of the value of as much money as the interest of one hundred pounds sterling would produce, should be given to the person who shall have undertaken and published the most important investigation upon any subject of natural history during the year; and, secondly, the Rumford medal, or *medals*, a much more splendid gift made to science, by one whose name is recommended by his own scientific merits, and is known also by the circumstance of his marrying the relict of the great Lavoisier. Count Rumford's donation of one thousand pounds in the three per cents. is so settled, that the accumulated interest of that sum during two years, amounting to sixty pounds sterling, is to be presented, once in every second year, to the author of the most important discovery or useful improvement made and published, by printing or otherwise, in any part of Europe during the two preceding years, "on Light and Heat." The sum in question is to be given in two medals, struck in the same die, the one of gold, the other of silver.

The medals more recently founded are those which, by a spontaneous act of the late revered monarch, George IV. were placed at the disposal of the president and council of the Royal Society. They are two in number, each of the value of fifty guineas—and they are, individually, termed binary medals, because, like the Rumford medal, each consists of a silver and gold medal struck in the same die—an arrangement which enables the successful candidate, to whom the medals are awarded, to convert the more precious medal into money, while he preserves the silver one in commemoration of his success. The King left it to the president and council of the Royal Society to settle the particular rules under which the

award of those honorary premiums should be made ; but he himself expressed the intention of the award, which was that of exciting competition among men of science, in promoting the object for which the Royal Society was instituted. His Majesty did not limit the award to his own subjects, but left it open for the council, who availed themselves of such a privilege, to embrace in their future deliberations the consideration of the claims of every author, no matter of what nation. It was afterwards ruled, that the medals should be bestowed on the author or authors of the most important discoveries, or series of investigations, completed and made known to the Royal Society in the year preceding the day on which the award was made.

With regard to the Lectures to be read before the Society—their annual number is three, and they are severally intitled the Croonian lecture—the Bakerian lecture—and the Fairchild lecture, or sermon, from the circumstance of its being delivered in some church.

The first was founded on the donation of one-fifth of the clear rent of a certain estate (producing to the Society £3. per annum) left by the relic of Dr. Croone. The subject of the lecture is fixed, and must refer to the nature and property of local motion.

The second was founded on the donation of Henry Baker, a worthy citizen of London, fond of natural history and experimental philosophy, who bequeathed the interest of one hundred pounds, to be applied as an acknowledgment for an oration or discourse, spoken or read yearly by one of the Fellows of the Society, on such part of natural history or experimental philosophy as the president and council shall appoint.

The third was founded by Mr. Fairchild, by whom it was appointed that the interest of twenty-five pounds, with other monies raised by subscription, now amounting to £100. three per cent. South Sea Annuities, should be applied as an acknow-

ledgment for an annual sermon, or lecture; on a subject of natural knowledge.

In order to enable the reader to judge how far these medals and lectures have been made instrumental, by the president and council of the Royal Society, in promoting science; I have concentrated, in tabular forms, the awards made of the former, with the motives for the award, since the beginning of the present century; and the names of the lecturers appointed with regard to the second, adding the title of the lectures they read.

Tables of the Awards of Medals in the Gift of the Royal Society—and of the Lectures appointed to be read by Fellows of the Royal Society, since the beginning of the present Century, distinguishing not only the names of the persons who either received the Medals, or read the Lectures before the Society, but also the subject of their Papers and Lectures.

TABLE I.—MEDALS.

YEARS since the conclu- sion of the last century.	COPLEYAN MEDAL. Founded A. D. 1730. Annual, and of the ordi- nary value of £5.	RUMFORDIAN MEDAL. Found. A. D. 1796. Biennial, and of the value of £60.	ROYAL MEDALS Founded, A. D. 1825. Two annual, and of the value of 50 gui- neas each.
1800	HOWARD. Discovery of Fulminating Mercury.		
1801	No award.		
1802	Dr. WOLLASTON. For his various Papers in the Philosophical Transactions.	RUMFORD, the founder. For his Discoveries on Heat and Light.	
1803	CHENEVIX. General communications on Chemistry.		
1804	TENNANT. Several communications on Chemistry, and the discovery of two new metals.		

- 1805 H. DAVY. Various communications in the Philosophical Transactions.
- 1806 A. KNIGHT. Various labours on Vegetation.
- 1807 EVERARD HOME. Various Papers on Physiology and Anatomy.
- 1808 Dr. HENRY (not a fellow then). Several Contributions to the Philosophical Transactions. MURDOCK. Employment of Gas from Coal, for the purpose of illumination.
- 1809 E. TROUGHTON. Method of dividing Astronomical Instruments.
- 1810 MALUS. New Properties of reflected Light.
- 1811 BRODIE. Paper on the influence of the Brain, on the action of the Heart.
- 1812
- 1813 BRANDE. Experiments on the alcohol of fermented Liquors.
- 1814 IVORY. Mathematical Papers. Dr. WELLS. For his Essay on Dew.
- 1815 BREWSTER. Papers on the polarization of light.
- 1816 H. DAVY. Papers on Combustion and Flame.
- 1817 KATER. Determination of an invariable standard of invariable measure.
- 1818 SEPPINGS. For improvements in the construction of Vessels of War. BREWSTER. Papers and Experiments on polarized Light.
- 1819
- 1820 OERSTED, of Denmark. Important Discoveries on electro magnetism.

- 1821 Two Medals.
J. F. W. HERSCHEL. For his Papers on pure Mathematics.
CAPT. SABINE. For his Observations on magnetism, and on the pendulum in the Arctic regions.
- 1822 **BUCKLAND.** Discovery of fossile bones in the cave at Kirkdale.
- 1823 **POND.** Various Communications to the Royal Society.
- 1824 **BRINKLEY.** For his Astronomical Papers in the Philosophical Transactions.
- 1825 Two Medals.
ARAGO. Experiments, electro-magnetic, on different metals.
BARLOW. For his Papers generally, and recent experiments on electro-magnetism.
- 1826 **SOUTH.** For Observations on 458 double and triple stars.
 First Medal. **DALTON** For his Development of the chemical theory of definite proportions.
 Second Medal. **IVORY** Papers on the Laws regulating the form of the Planets, &c.
- 1827 Two Medals.
PROUT. Ultimate composition of alimentary substance.
FOSTER. Magnetic Observations in the Arctic regions.
FRESNEL. Development of the undulatory theory applied to polarized light.
 First Medal. **Sir H. DAVY.** For all his scientific discoveries.
 Second Medal **STRUVE** of Dorpat, for his catalogue of double Stars.
- 1828
 First Medal. **ENCKE,** of Berlin, for his researches and calculations respecting the Comet which bears his name.

			Second Medal. WOLLASTON, for his process of rendering platina malleable.
1829	No Award.	No award.	First Medal. CHARLES BELL. Papers on the nervous system. Second Medal. MITSCHERLICH of Berlin, Discoveries respecting the crystalline formations of bodies.

TABLE II.—LECTURES.

<i>Years since the beginning of the present century.</i>	<i>CROONIAN LECTURE. Instituted, A. D. 1738.</i>	<i>BAHENIAN LECTURE. Instituted, A. D. 1774.</i>
1801	E. HOME. On the irritability of the nerves.	DR. YOUNG. On the mechanism of the eye.
1802	E. HOME. On the power of the eye to adjust itself to different distances when deprived of the crystalline lens.	DR. YOUNG. On the theory of light and colours.
1803		Dr. WOLLASTON. On the quantity of horizontal refraction, with a method of measuring the dip at sea.
1804		Dr. YOUNG. Experiments and calculations respecting physical optics.
1805	A. CARLISLE. On muscular motion.	
1806	A. CARLISLE. On the arrangement and mechanical action of the muscles in fishes.	Dr. WOLLASTON. On the force of percussion.
1807		H. DAVY. On some chemical agencies of electricity.
1808		H. DAVY. On the decomposition of the fixed alkalies, &c.
1809	Dr. YOUNG. On the functions of the heart and arteries.	H. DAVY. Confirmations of his discoveries founded on electrical analysis and the foundation of a new chemical theory.

- 1810 Dr. WOLLASTON. 1st, on the duration of voluntary motion. 2d, on the origin of sea-sickness. 3d, on the advantage of gestation to promote health. H. DAVY. On some new electro-chemical researches.
- 1811 BRODIE. Researches respecting the influence of the brain on the action of the heart and the generation of animal heat. H. DAVY. On some combinations of oxymuriatic acid gas, and oxygen, &c.
- 1812
- 1813 Dr. WOLLASTON. On the elementary particles of certain crystals.
- 1814 BRANDE. On some new electro-chemical phenomena.
- 1815
- 1816
- 1817
- 1818 E. HOME. On the changes which blood undergoes in the act of coagulation.
- 1819 E. HOME. On the conversion of pus into granulation or new flesh.
- 1820 E. HOME. A further investigation of the component parts of the blood. BRANDE. On the composition and analysis of the inflammable gaseous compound from the distillation of coal-oil.
- 1821 E. HOME. Microscopic observations on the brain and nerves—the discovery of valves in certain vessels—and on the structure of the spleen. KATER. On the best kind of steel for a compass needle.
- 1822 E. HOME. On the structure of the eye. Capt. SABINE. On the dip of the magnetic needle in London.
- 1823 BAUER. Microscopical observations on the muscular motion of the *vitrio tritici*.
- 1824 E. HOME. On the internal structure of the human brain microscopically examined. HERSCHEL. On certain motion produced in fluid conductors when transmitting electrical currents.

- 1825 E. HOME. The existence of nerves in the placenta.
- 1826 E. HOME. Structure of muscular fibre from which are derived its elongation and continuation. Sir H. DAVY. Relation of electrical and chemical changes.
- 1827 E. HOME. Propagation of the oyster.
- 1828
- 1829

With respect to the Fairchild Lecture or Sermon, I have not been able to discover any trace or record which could be of interest, or prove satisfactory to my readers. Mr. Babbage asserts that, for five years, from 1800 to 1804, Mr. Ascough received the trifling sum arising from the interest of £100. which has been as regularly given since that time, and for the space of 26 years to the Rev. Mr. Ellis. But whether this or the former gentleman have complied annually with the intention of the founder in delivering a sermon on some subject of natural knowledge or not, Mr. Babbage does not state in his book. It is impossible however not to agree with him—that the lecturer or preacher's name, when once appointed by the president, should be published to the society—and that the church in which the lecture or sermon is to be read should be mentioned. A better plan would be to invite clergymen to compose such a lecture—and provided the subject chosen be one of adequate interest, skilfully and eloquently treated—the fellows might be expected to attend—and the lecturer to acquire character and reputation. The intention of the founder would thereby be better fulfilled.

Much—very much offers itself for observation on perusing the two tables which I have just inserted. To ensure their accuracy I have taken as much pains as the documents on which I could lay my hand would permit. But the sources of information are scanty, scattered, and defective, owing to

many irregularities in the mode of conveying to the readers of the Transactions that information on these subjects which the statutes require, and the imperfect manner in which Registers and Books of Minutes used to be kept. Thus, for instance, while we have in two successive volumes of the Phil. Transactions the official announcement of a single award of the Rumford medal to Sir H. Davy for his paper on Combustion and Flame—we miss in the volume for 1826, all kind of information respecting the first award of the two medals on the Royal foundation! Nay, more, in no part of the printed Records of the Royal Society does the noble and patriotic gift of the late King—the foundation of the two medals—of 50 guineas each—appear registered! So that future historians will be left to guess that such a foundation has ever taken place; or they will be compelled to look for information on that point from a writer who has shewn no great respect for this scientific body.

Looking to the successive adjudications of the medals—the Copleyan—the Rumfordian—and the Royal—I cannot agree with Mr. Babbage in thinking that they display want of judgment or partiality.* I find not a single name among those contained in Table I. who has not richly deserved the prize awarded to it. Nor is there, in them all, such a *prima facie* appearance of affiliation—nepotism—or reciprocal caressing—which would lead me to believe the problematical cases put by Mr. Babbage at all applicable.

This author states that a medal was given to A at a peculiarly inappropriate time, *because he had not had one before*—that a medal was afterwards given to B, *in order to destroy the impression which the award of the medal to A had made on the public the preceding year*; and lastly, that a medal was given to C, *because it was supposed that C had been ill used*. I profess not to have ever been behind the scenes, and therefore would not, at any rate, attempt to con-

* Page 128 and 131 of Mr. Babbage's book.

tradict the Lucasian Professor, who seems to have been *dans les coulisses* to some purpose. But I cannot help thinking that his initiation into some half secrets have made him suspicious of the existence of many more; and, at all events, I would say—that in framing these accusations, he relies too much on the reality of what his imagination suggests to him touching the interest which he supposes the public to take in the award of any medal whatever.—He must be *innocent* of the London public, indeed, if he thinks that they care one atom about the adjudgment of any medals by the Council of the Royal Society. Unless, indeed, Mr. Babbage fancies that a dozen or two of the busy *scientificers* who prowl about Somerset House, and have scent of every thing that goes on there—and who at the present critical conjuncture have been set up by a small band, as the *working* members (ah! ah!) of the society—are to be considered as the public of whom he speaks. In the first Table I do not find Mr. Babbage's name—perhaps it ought to have found a place there. His labours, I am sure, entitle him to the distinction of Medallist. But in its stead we have names which can never be said to have been unjustly forced into the married state with either a Copleyan or a Rumfordian, or even a Royal medal; and as I find no link of relationship, and barely a tie of friendship between any one of them, I am fairly entitled to form my own opinion as to the general fairness and impartiality which has been shewn in the distribution of the medals contrary to the insinuations thrown out by Mr. Babbage and the Chevalier Astronomer, that the principle which has directed that distribution has been the northern one of *Pawh me—and I'll pawh thee*. Who can object to Howard, Wollaston, Chenevix, Tennant, Davy, Knight, Home, Henry, Troughton, Brodie, Rumford, Brande, Ivory, Brewster, Kater, Seppings, Herschel, Buckland, Pond, Brinkley, Barlow, Prout, Dalton, and Chas. Bell?—besides the foreign names of Malus, Arago, Fresnel,

Struve, Encke, and Mitscherlich? Are not the former names dear to English science? Do they not gainsay the assertion that "science is declining in England? Whether the rules by which the adjudication of those medals is to be guided be the best or the most judicious is another question—and still less am I inclined to agree with those who contend that the mode of deciding or the reasons for assigning are the best calculated to promote science. But that the decision, *quo ad homines*, have been uniformly just, I am prepared to assert, except in one instance, and that instance has also been condemned by Mr. Babbage—the adjudication of a Royal medal to a philosopher who had already enriched himself by the very discovery which the council thought proper thus to reward, and of which death alone seems to have compelled the promulgation, was truly unjust.—By keeping that discovery to himself for many years—like a medical empiric, who dares not to purchase a patent lest he should be compelled to give a specification of his remedy—Dr. Wollaston retarded the course of investigation and discovery respecting one of the most useful metals in nature. I say retarded advisedly; for what chemist or metallurgist would have ventured to undertake any series of experiments on the same subject, respecting which it was known, that every difficulty had already been conquered by Wollaston, who might at any moment divulge his secret to the world, and thus thwart at once the pretensions of any other successful experimentalist?

On the whole, I would repeat, that the Royal Society of London, with all its sins on its head, is not chargeable of having disgraced science by the awards of its medals since the beginning of the present century.

In respect to the lectures the thing is different—very different indeed. First, because the system is bad—secondly, because a bad system has been made worse by working it badly—and thirdly, because the results of a bad system, so

badly worked, have been, with a very few exceptions, equally bad. If I can prove these positions, I shall have proved that the Royal Society, in its present constituted state, and, with reference to one of the means which it possesses of encouraging science, by the appointment of remunerated lecturers, has failed in doing its duty, and consequently requires correction.

In the first place, the system which limits the composition of a lecture to one object or class of objects alone, and that too for an indefinite number of years, during which the same subjects is to be treated, must be bad *a priori*. It may be that the subject is one susceptible of being and has been exhausted; of what use, then, would any farther attempt at investigation be? Or the subject may be of a nature admitting of no demonstration, or unimportant, if demonstrable. In these two latter cases again, time, paper, and the real interest of science must be wasted in the successive annual attempts to do that which is either impossible—or of no earthly use when effected. Thus it is with the Croonian lecture. Its subject must of necessity be “the nature and property of local motion; by which, I suppose, is meant loco-motion. Now, although this subject has been strained in every possible way, and has been treated by many writers in these Transactions, and by as many more whose labours never found their way in the Transactions, such as those of the late Mr. J. Pearson—what result, I would ask of my readers, has flown from those exertions? Look at the titles of the said lectures in my second table, of which not fewer than seventeen are recorded—and decide (first) whether those lectures which are strictly within the meaning of the foundation have added much to what was already known on the subject; and (2dly) whether those which convey any new information are in the least connected with the question of loco-motion or local-motion.—What, for example, has the propa-

gation of an oyster to do with loco-motion? or the existence of nerves in the placenta, or Wollaston's sea-sickness? The system, therefore, is bad, and must be changed. It has been virtually changed by some of the lecturers, with the assent of the council and, therefore, the sooner the change takes place altogether and is announced officially, the better.

In regard to the other lecture, namely, the Bakerian, the absurdity of the system of limitation is not so much felt; because the subjects embraced by the meaning of the founder are fortunately numerous, and most of them full of interest and importance. Hence we have, in the lectures registered in the second table, a greater variety of topics discussed—some of them very ably treated and others conveying absolute discoveries. Still, even here we see the badness of the system; for there is since the beginning of the present century, no mention of any lecture on subjects of natural history which are included in the words of Mr. Baker's bequest; and we have lectures on subjects not strictly appertaining to what is called experimental philosophy—at least, according to the more usual acceptation of the word. The description, for example, (valuable as that lecture is from the manner in which it is executed) of the process of making glass, cannot be considered in any other light than as belonging to manufactures—although the making of that particular glass be for optical purposes. All Sir H. Davy's highly important Bakerian lectures are of a mixed kind—the one by Professor Brande, on Coal Gas, has nothing to do with experimental philosophy properly speaking.

I have said, in the second place, that a bad system has been made worse by working it badly. By this I mean that the encouragement of science, paltry as that is which the assigning of these lectures is intended to produce, has been unjustly limited to a very few individuals, who happen to be favourites at head quarters; and has followed, instead of pre-

ceding the object, which it is intended to promote—that is to say—that favourite persons who had written papers for the Royal Society, which would, at all events, have found their way into the volumes of the Transactions, without any stimulus of Bakerian or Croonian money—had that money assigned to them for such papers, which were afterwards entitled Bakerian or Croonian lectures. This I know to have been the case in more than one instance—and hence the absurdity of the conclusions to which the council have often come in this matter, whenever they styled and rewarded, as Bakerian or Croonian lectures, papers, the subject of which was not in accordance with the defined intention of those lectures. Out of 17 Croonian lectures since 1801, not fewer than 10 were delivered by Sir E. Home, who would have communicated to the world his valuable labours at all events.

In the third place, I asserted that the results of so bad a system have been, with a few exceptions, equally bad. The truth of this position is illustrated by what I have alleged under the first and second of my propositions. To which I may add, as general bad results, first, the little attention paid by the fellows at large to these lectures, or the intention of their founders, as means for promoting science; secondly, the injustice done to a vast number of able and skilful men of science in not assigning more impartially, to each in their turn, the duty of delivering such lectures—and, thirdly, the failure of the well-meant intention of the founders of those lectures—that of encouraging the learned, of all classes and degrees, in the pursuit of certain curious, and in many respects interesting, branches of scientific investigation.

There remains but one more subject to be touched upon concerning the Royal Society, in order to complete the picture I have undertaken, of its present real condition and structure, with a view to establish good grounds for the reform which I shall have to propose in the second section of

my "Expostulation." The subject I allude to is that of the finances of the society.

So imperfectly is the Society informed by its treasurers, acting under the direction of ill-digested statutes, of the state of its revenue and expenditure at each anniversary meeting; that with difficulty can a fellow form an approximated idea of those two important points. Nor is it possible for any member to obtain a positive and authenticated return of the different items of such expenditure and of each separate source of revenue. The treasurer's strong box and his ledger are hermetically sealed, like Aladdin's cave, against every fellow not of the council, and no "open sessame" can avail.

Collating, however, the reports of the treasurers as they appear on the minutes of the general meetings of the Society,—and adopting the numbers mentioned in those reports, in the summary manner in which they appear in those documents—I have drawn up the two following columns of receipts and expenses of the Royal Society for the last 30 years, beginning with the year 1800.

<i>Receipts.</i>				<i>Expenditure.</i>			
£	s.	d.		£	s.	d.	
1800.....	1824	18	7	1800.....	1535	18	6
1801.....	2336	18	10	1801.....	2128	18	10
1802.....	1754	3	0	1802.....	1601	7	1
1803.....	2089	4	9	1803.....	1680	17	8
1804.....	1799	9	4	1804.....	1584	17	8
1805.....	2052	3	4	1805.....	1392	6	0
1806.....	2342	0	4	1806.....	2356	3	9
1807.....	1707	0	10	1807.....	1482	15	7
1808.....	1789	3	5	1808.....	1514	14	7
1809.....	2094	3	0	1809.....	1705	6	6
1810.....	2200	10	2	1810.....	1415	10	10
1811.....	2369	14	2	1811.....	1621	14	1
1812.....	2578	6	3	1812.....	1794	19	6

	£	s.	d.		£	s.	d.
1813.....	2342	7	3	1813.....	1726	9	6
1814.....	2540	18	8	1814.....	1996	16	2
1815.....	2300	12	9	1815.....	1764	17	7
1816.....	2895	15	6	1816.....	1949	6	3
1817.....	2939	19	0	1817.....	1904	13	11
1818.....	2605	17	0	1818.....	2061	0	4
1819.....	4117	14	8	1819.....	2358	10	8
1820.....	4407	13	8	1820.....	4117	1	5*
1821.....	3189	14	3	1821.....	2891	4	3
1822.....	2885	13	0	1822.....	2781	0	8
1823.....	2535	18	8	1823.....	2243	18	9
1824.....	3085	19	3	1824.....	1698	4	8
1825.....	3645	0	11	1825.....	3027	6	10
1826.....	2954	18	4	1826.....	2285	4	2
1827.....	3174	7	3	1827.....	2319	7	5
1828.....	4433	12	5	1828.....	3141	7	11
1829.....	4943	15	8	1829.....	4647	0	0
30 years	£.81937	15	0	30 years	£.64799	7	11

* This year a sum of 2000*l.* was laid out in the purchase of reduced 3 per cent annuities, and on the following year a further sum of 570*l.* 7*s.* 4*d.* was similarly laid out.

In the above column of receipts the gross sums are entered, including the balance left in the treasurer's hand from the preceding year. Hence, when compared with the column of expenditure, it would appear as if a balance of 17,138*l.* 7*s.* 1*d.* remained in favour of the Society; whereas, in reality I believe, a very trifling balance remains in the hands of that officer available to the Society, out of the prodigious sum of nearly 65 thousand pounds expended in the course of 30 years.

And for what purposes has such a large sum of money been expended by the Society? What control has the Society exercised over such an expenditure during that

time? To the latter *question*, the answer is brief—none whatever. To the former question, the reply is not so easy. If to publish hot-pressed pages, and numerous unnecessarily splendid plates be a *purpose*—then there is *one* answer to the question of expenditure. If to publish the president's speeches, at a cost three times as large as need be, with an intention of selling the copies afterwards to the fellows, who care not to buy them, be a purpose—then there is *another* answer to the question of expenditure. If to re-gild frames, varnish portraits, furbish up old furniture, brush up the mace, recover velvet-cushions, provide a three-cornered hat for the president, be a purpose—then there is a *third* answer to the question of expenditure. In fine, if to pay upwards of 400*l.* per annum to three secretaries (one of which offices, though important, has been made a complete sinecure for the last 12 or 15 years,) one assistant secretary, and a clerk, with a porter and housekeeper, be a purpose—then there is a *fourth* answer to the question of expenditure. But, in good truth, we are left to guess at the real purposes of so large an expenditure of money, which would have gone nigh to pay the salaries of 60 members of the Institute of France for the same period of time, at the rate of twelve hundred francs per annum—not including the *jétons*, or fees, which those acadamecians receive at each meeting of their body. How different, however, are the results to science in the country in which similar large sums have been applied to support the Institute?—and how proportionately large a return to science has resulted from the men so remunerated?

For the honour of the Society's officers (for in good troth the Society itself has no control over the matter) it is to be hoped that the 20th and the 28th, the 30th and 34th charges contained in the bill of impeachment against the President and Councils of the Royal Society, published by Sir James South, will be explained satisfactorily—or shewn to rest on

some mistaken notion of the worthy knight.—Else we should have, collectively, another and very comprehensive answer to the proposed question of “to what purpose is so large an expenditure incurred.” The first of those four charges implies that hundreds of pounds of the Society’s money have been converted into “white bait, rose water, and Sauterne, (I should say bad Barsac,) by the said President and Council. The second, third, and fourth of those charges imply that thousands of the public money have been spent by the same authorities in some floundering experiments for the manufacturing of glass for optical purposes; but whether this *public* money be the Society’s money or otherwise, the accuser sayeth not. The last of those charges, avers that a sum of £2600. of the Society’s money (for what object it is not stated) was paid away without investigation last year by the accused President and Councils : *Nous verrons*.

The curious calculation by which the Lucasian professor has shewn, in his book, how a very large portion of the total sum of expenditure mentioned in this Expostulation has been fooled away—deserves consideration; the more so as the plates which have cost the heavy sums mentioned by Mr. Babbage, were afterwards gratuitously lent to the author of the papers for which the plates were engraved at the expence of the Royal Society—that he might collect them in five volumes and publish them as the principal part of a large work on comparative anatomy. Mr. Babbage’s statement is as follows :

“Previous to 1810, there are upwards of seventy plates to papers of Sir E. Home’s; in many of these, which I have purposely separated, the workmanship is not so minute as in the succeeding ones. Since 1810 there have occurred 157 plates attached to papers of the same author, many of these have cost from twelve to twenty guineas each plate; but I

shall take five pounds as the average cost of the first portion, and twelve as that of the latter. This would produce

$$70 \times 5 = 350$$

$$187 \times 12 = 2244$$

Total 2594 expended in plates *only* on one branch of science and for one person?"

So much for the finances—and last point of consideration on the present *real* state of the Royal Society.

SECOND SECTION.

Embracing the serious Consideration of the Reform of the Royal Society.

1st *Topic.* The most preferable form to be given to the Society—its ordinary meetings—and the mode of conducting business.

The present form of the Royal Society is objectionable, because it is in many respects inefficient of purpose. Its government is a species of republican union, without due representation of all the interests, headed by a doge and a council of TEN,* though the council in reality consists of twenty-one members including the president. It is a truly Venetian oligarchy, the administration of which rests upon secrecy, and the absolute separation of the governed from the governors, whose proceedings are *never* to be made matter for discussion. The President, or Head, is annually elected

* It is somewhat curious, that in a very few instances only, have I been able to discover more than the above number of trusty and well-beloved councillors in attendance at any of the meetings of the council out of the whole number of twenty-one—and that, of this number, two-thirds were always the well-known favorites of the President.

and re-eligible *ad perpetuitatem*. The general council of twenty-one is annually purged of *ten* members—and these cast-off members are re-eligible after the lapse of one year. Out of the Council the President selects and names his Deputies or Vice-Presidents. This power of the President was limited by the “*charta prima*” to one Deputy, “*liceat et licebit Præsidi unum de Concilio fore et esse Deputatum ejusdem Præsidis nominare et appunctare.*” But the “*charta tertia*” has extended that power indefinitely from *one* to *more* Vice-Presidents or Deputies, “*cui quidem Præsidi pro tempore existente duos vel plures deprædico concilio ejus Deputatos facere et constituere potestatem et auctoritatem concedimus.*” These Vice-Presidents share yearly the fate of him who appoints them, and vacate their seats—being, however, like their principal, re-eligible by him, if himself re-elected. The two Secretaries who are stipendiary officers, and the Treasurer are also, nominally elected by the Society, and must be taken out of the list of members of the Council for the current year. In later years a foreign Secretary was deemed necessary in a society which ought (but does not) keep up an active correspondence with foreign scientific men and academies. From the chronological table of the Presidents and officers of the Society, since its foundation, which I have inserted in this section, it will be seen that the appointment of foreign Secretary was not contemplated by the charter. It takes place in virtue of a resolution of the Council, and rests entirely in the hands of that body and its President. A small pecuniary acknowledgment is made annually to this officer, whose duties are defined by the fourth section of chapter ninth of the statutes. The two Secretaries have generally been understood to share between themselves the business of the Society, so that the one reads all papers communicated to the Society, as well as the correspondence of the learned, and other persons in England

and abroad, together with the list of presents, &c.; while the other is to draw up and read the minutes of the ordinary, as well as general meetings of the Society, and note the admission of candidates, and the election of fellows. The mode in which the minutes are drawn up is various. Ostensibly, all papers read which relate to mathematical and physical sciences are minuted (that is say, an abstract made of them) by the reading Secretary—and those papers which relate to natural science are condensed and minuted by the Secretary, whose duty it is to keep the book of minutes. But this process is frequently deviated from—and the author of the paper, himself, has been at times requested to send in a minute of his own performance. Now, as it has happened that some of the minutes have smacked not a little of a laudatory style, which has biassed the auditors who were not present at the reading of the original paper—it is manifest that the last-described method of registering the minutes, must lead to imperfect and unjust conclusions, and prevent members from forming with correctness their opinion of the subsequent conduct of the “committee of papers,” in rejecting or otherwise disposing of the communications intended for the Philosophical Transactions.

Nothing can be more monotonous or soporiferous to the fellows assembled, than the ever-revolving, unchangeable mode of proceedings at the weekly ordinary meetings of the Society. The fellows having first watched the president and the two secretaries take their seats—the former covered, in token of the authority which belongs to the “*primus inter pares*”—and having heard the list of the visitors read who request to be admitted for the evening into the hall of the Society—wait patiently until the latter have rushed in from the adjoining antichamber, and settled themselves respectively on either side of the hall on parallel cross benches—and then

“lend a willing ear” to what is to follow. One of the secretaries next proceeds to read the minutes of the last meeting, which consist in repeating, in fewer words, every thing that was read by his colleague on a former evening. This done, the president nods to the secretary on his left hand, who, in his turn, begins with the list of presents, and the reading of the certificates for election of all such candidates for the fellowship who might, at the time, be lying before the Society. The forms will it, that the president should put the question to the Society, whether it be their pleasure that such certificates be either received in the first instance, or balloted for when the proper time is come ; but the Society has never ventured, except in one remarkable instance, to throw any objection in the way of the proceedings, which accordingly begin at once. Another look from the same secretary to the president, and a nod from the latter to the secretary, is the signal that the reading of a paper or communication to the Society is about to commence—and then begin also the various attitudes of the fellows and visitors present, indicative, at first, of the spirit with which they are prepared to receive the communication, the title of which has at once decided that question in their minds—and, a few minutes later, indicative of the balmy and sedative effect which the paper itself has had upon their senses. These attitudes, and the occasional deep nasal notes by which, at times, they are farther illustrated, are interrupted by the assistant secretary, who presents the balloting-box to the composed and quiescent fellow for his vote. The same interruption is given to the reading secretary, who, in the midst of a sentence often interesting, is made to suspend his office, and to lay down the manuscript ; until the President has drawn out the nay and the yea drawer from the box—has exhibited the unoccupied green baize of the former, and that of the latter crowned with friendly balls—and, after having doffed the token of his au-

thority from his head, has proclaimed the name of the successful candidate. The secretary then resumes the reading of the paper, unless another and another certificate stand for ballot the same evening; in which case the same process, and the same interruption take place over and over again; dividing equally into as many sections the paper read to the Society, and into as many naps the duty which devolves, at these interesting meetings, on the members of the Society. At length, either the Somerset-House clock—or the more portable time chronicle of the chairman, gives a welcome warning that this tedious ceremony (I speak under correction) is about to end, and the meeting is dissolved—none of the fellows present having, of course, taken the least share in its proceedings. In this picture, we have at once the history of the Society's endeavours to improve natural knowledge in England. For when we add to it the publication to the world at large of some papers, so read—so interrupted—and so minuted, which takes place in the course of the same year; I have said all that can be said of its exertions, and there remains not another characteristic feature which I can communicate to my readers.

Now all this demands reform—and, fortunately, such a reform is neither impossible, nor rendered impracticable by the existing charters. Still more fortunate is it, that by the power given to the president and council of making and repealing laws—the necessity of the more cumbrous mode of proceeding, attendant on an alteration of those charters with the consent of a general meeting, is avoided.

The ordinary meetings of the Society are regulated by Chap. XI. of the Statutes—and for the making of a new statute or the repealing of one actually in existence, it is only required that the draught of such a new statute or law, and the question of a repeal of any old statute, should be propounded and voted for consideration at one meeting of the council—and

again discussed, and finally voted for admission' or rejection, at a second meeting of the council.

The reforms then to be suggested would require only to be discussed in the council, and might be adopted, if found to be imperative and important, without great difficulty; and I would take leave to add, that probably at no period of the history of the Royal Society, has there existed a more propitious moment for the adoption of wholesome changes in the form of the Society—the nature of its ordinary meetings—and mode of conducting business, than at the present crisis;—when a new president and a renovated council, with probably new officers, are likely to exert themselves with the vigour also of new men in old places, for the purpose of restoring dignity, efficiency, and importance to the Society.

The form which the Society might with advantage adopt is that of classes—each to consist of a limited number of members. The manner in which the Royal Society has been supported throughout its existence has been by annual contributions—and certain sums paid in lieu of such contributions by the members. It has hence followed that, as the establishment became gradually more expensive, from a variety of causes which it is needless to examine in this place, the only mode left for the council to meet the growing expenses has been that of encouraging or overlooking the introduction into the Society of as many persons as were willing and able to pay those contributions, regardless often of the scientific considerations by which those admissions ought to be distinguished.

Granted, therefore, that a large number of fellows be requisite to ensure a large yearly income—and that no retrenchment in the present expenditure be deemed advisable: the total number of fellows might still be great and yet limited—say to six hundred. The financial part then would be secured by this arrangement. But in order to make it

consistent with science, this large number of fellows should be divided into scientific classes, each of them according to the nature of his scientific pursuits, known to the world, either through his publication, or a well-established character, as a scientific man who devotes his attention to one particular branch of science. But as, in so large a number of persons, it is impossible that every one should come under either of these denominations ; and, on the other hand, as many who do not come under either are nevertheless very friendly to science, and anxious to promote or patronize it in some way or other—a farther class, to comprehend all such fellows, should be established, entitled a Free Class, and in this the members might be so limited, as not to increase the totality of the Society beyond six hundred. All the fellows collectively would be entitled to the same privileges, and distinguishing honors and initials, as by the charter directed, in regard to the public ; and the distinction of classes would only be appreciated by the scientific world. We should then know at once through what claim any particular person has been admitted into the Royal Society, by looking at the class to which he belongs ; and ascertain the grounds upon which any candidate seeks to be admitted into a particular class of that Society—so as to verify them by personal inquiry. Science and pecuniary interest would thus be reconciled ; and the list of the Royal Society would exhibit what it never did before, a fair approximation to a real representation of the scientific public in England.

The titles of the classes into which the Society might be divided, should be adopted from the branches of science which seem to have been mostly cultivated in England, as evinced by the Analytical Table of the contents of the papers read before the Society since the beginning of the present century ; and according to the average number of papers read during that period in each branch, might the limited number of fellows to be admitted into each class be fixed.

The names of the classes might run thus :

- Class 1. Higher Mathematics,
 — 2. Astronomy,
 — 3. Mechanics and Hydrodynamics,
 — 4. Experimental Philosophy,
 — 5. Chemistry,
 — 6. Natural History, Botany, and Vegetable Physiology,
 — 7. Geology, Mineralogy, and Metallurgy,
 — 8. Physical Geography, and Physical Statistics,
 — 9. Medical Sciences,
 — 10. Free Class,

and the relative number of fellows to be admitted into each class grounded on the calculations contained in the Analytical Table—would be as follows :

Class 1.	Mathematics	20
— 2.	Astronomy	30
— 3.	Mechanics	40
— 4.	Experimental Philosophy	70
— 5.	Chemistry	70
— 6.	Natural History, Botany, and Vegetable Physiology	60
— 7.	Geology, Mineralogy, and Metallurgy ...	60
— 8.	Physical Geography and Physical Sta- tistics	60
— 9.	Medical Sciences	60
— 10.	Free Class	130

Total 600

It ought, however, to be fully understood, that the mere circumstance of any person following a profession for emolument, which has an immediate or relative connexion with any branch of science—shall not entitle him to admission into the class corresponding to that branch;—but that he shall be

expected to have virtually contributed to the promotion of that branch of science. Else we should have all the College of Physicians and Surgeons (who by the bye as I have shewn elsewhere form more than the seventh of the whole Society) without having done, as it actually appears to be the case with most of those hitherto admitted, anything for science—all the Engineers by profession—and all the fellows of the Geological Society to boot, who call themselves geologists.

It will be seen, from the Analytic Table, that one branch of science has been entirely omitted. I mean Botany, in consequence of the total absence of any paper on that subject in the Philosophical Transactions during the period of thirty years. Still I have retained that branch in my classification; but, as it is likely that the communications on that subject will be few in number, as long as the Linnean Society absorbs that entire branch of science—I have added it to the class of Natural History, with another branch of Science of quite a modern creation, namely, Vegetable Physiology. If, however, the system of classes be adopted, every person who wishes to be admitted as a fellow, not only in the class of botany, but in every other class—for the science of which there exists a subordinate society—should be called upon to give proofs to the Society that he is a real working man in that science, by a written communication. The stigma cast on the last thirty volumes of the Transactions, of not containing a single word on pure Botany, and very few on Zoology, Geology, and Astronomy, would, thus, be soon wiped off from the history of science.

Such an arrangement would have the direct effect of increasing the interest of the ordinary meetings of the Society, by giving the tone of variety and of real business to its proceedings—for it would enable the President, or any of the fellows present on a specific motion, to refer a paper, after it had been read, to the class with which the subject of the paper is more immediately connected, assigning the reason

for such a reference, and desiring that class to make their report to the society. It would also afford to the Society an opportunity of having such reports from the different classes to be read by the member deputed to that effect by the class—and their reasons for that report, on the strength of which the meeting might decide by ballot whether the paper should appear in the Transactions.

In order to carry this into effect, each class should be allowed to meet in a committee of its members, as often as necessary, under the presidency of one or two of their own members, and assisted by another acting as Secretary. These committees should be open to all the fellows of the Society, but the voting upon the papers referred to particular classes, should only be permitted to the members of that class, who thereby would become a sort of guarantee to the Society at large, as well as to the author, that the paper had received the fullest consideration from “fellows” the best informed on the subject.

It would be desirable that the chairmen of committees in each class should be elected permanently, and not to be replaced except in cases of resignation or death—that they should be selected by the class among its most celebrated members; and thus, while an important and manifest improvement would be made in the manner of conducting the scientific business of the society; we shall have established, within itself, a fertile source of worthy emulation for exertion, which does not now exist in the Royal Society.

The nomination of the vice-presidents by the President would form a second source of emulation and guerdon for past services, particularly if such vice-presidents be taken from among members of unquestioned superiority in each class, to represent in the Society the interest of their respective classes. The vice-presidents should have a distinct place assigned to them at the meetings of the Society. The council

of administration, likewise, should be separately seated near the table—and lastly, the chairmen of committees ought equally to have seats set apart for them, that they may be within reach of the table, in case of questions being put to them, or reports being presented by them.

There are none of these simple arrangements and improvements in the way of conducting business in the Society that have not, more or less, the benefit of long experience in its favour, both in England and abroad. The Institute of France has its classes and committees of classes. The Society of Arts in England has its classed committees—and both make reports on papers referred to them. There is not even the proposed arrangements of distinct stations in the hall of the Society during the ordinary meetings—or the reading of the reports by different reporters instead of by the secretary, (by which much of the monotony of the present meetings would be obviated,) that has not been acted upon both here and abroad by distinguished societies, which flourish under that system. I am sure that there is not a member of the Society of Arts, and I am myself of fifteen years standing in it, who will not agree with me in stating, that had that Society been constituted like the Royal Society, and the ordinary routine of its business consisted merely in the reading of a paper and minutes for the space of an hour; its existence would long ago have ceased; instead of which that Society has flourished under a very different system of proceeding—one which multiplies and varies the interest of its meeting, and affords to every member, each in his department, opportunities of working heartily for science.

But there is another and a very important alteration in the manner of conducting the business of the ordinary meetings of the Society, which the nature of the present times, and the wants of inquiring men demand on all hands—and which, fortunately for the Royal Society, may be adopted (or indeed re-

verted to, for it formerly was in force) without infringing the statutes. The alteration I allude to is the introduction of a rational, temperate, never controversial if possible, but chiefly practical discussion among the members present on the subject of the paper read, or any of its collateral branches—or on the reports made by committees, if the latter very desirable arrangement be adopted. That discussion, such as is here meant, was at one time an ordinary occurrence at the weekly meetings of the Society, is proved by the minutes of those meetings preserved in the Archives of the Society, wherein it is seen that the members present frequently entered into the consideration of the papers before them, and offered their individual observations on the subject of those papers, which observations are registered on the minutes of those times. That discussion is presupposed by the statutes to be a likely occurrence is fully proved by the language of those statutes, as I find them published in the edition of 1823.

In Chapter VII., which describes the duties of the president, it is stated, among other matters, that “his business shall be to preside in all the meetings, and *regulate all the debates* of the Society;” and further it is ordained, “that whensoever any question shall be desired to be put by any fellow at a meeting of the Society, and seconded by another, the president shall put the same, unless *upon debate* the sense of the meeting appear to be otherwise.” Nothing can be clearer. But we have still further evidence of this power of the Society to enter into discussion at its *ordinary* meetings in Chapter XI., wherein those meetings are described; for it is there stated thus, “when any fellow speaketh he shall address his speech to the president, and the rest shall be silent;” and again, “when two or more offer to speak together, the president shall determine which of them shall speak first.” What more, then, can be required that language has not, in the

clearest manner defined, to prove the affirmative of my proposition—that debate (an objectionable word to which I substitute the quieter one of discussion) is part and parcel of the business of the ordinary meetings of our Society? I hope, therefore, for the credit of the Society—for the sake of its declining interest, that we shall soon have a wholesome restoration of a wholesome practice—from which much may be expected in the way of reviving the expiring ardour of science, as at present evinced at our ordinary meetings. Nor is it merely discussion on the papers brought forward which ought to be encouraged, but the narrative of facts connected with science also—the description of experiments, or of new scientific or philosophic processes witnessed—and the relation of all other philosophical matters.

Notwithstanding all this array of evidence in support of the legitimacy and admissibility of debate and discussion at our ordinary meetings; such is the ignorance which prevails among a certain class of the “fellows” on the subject of the statutes, that one of them, who has since put himself in the ranks of the “noisy ones,” actually put a stop to the only discussion which was ever heard at an ordinary meeting, by stating that the *statutes forbade all such debates!*—and the president, equally unacquainted with the statutes, which it is his business to enforce, actually acquiesced in the opinion of the mistaken member! I know that those who are for silence, and care not to have their sweet repose disturbed, which generally follows the scientific dinners had at the Crown and Anchor just before the ordinary meetings of the Society, will attempt to prove, by one solitary expression to be found in another part of the statutes, that debate or discussion is in violation of those statutes; but that very expression, though of a negative kind, is confirmative of the position I maintain; for it provides that, in order not to waste time in unprofitable

debate, if a motion or question proposed to be balloted for by the Society shall be brought forward, the same shall be transcribed on paper, read by the secretary once, suspended in the room for one meeting, and put to the ballot at the next ordinary meeting of the Society—the said proposition being signed by six or more members. It is manifest, from this language, that the provision applies to vital questions to be passed into laws or resolutions only ; and not to the ordinary subjects of discussion, much less of such discussion on scientific subjects, and others connected with the Society, for which I contend, and in favour of which the statutes in this very chapter are still more explicit, inasmuch as it is stated—that the restrictive regulation above alluded to, of writing out any motion or proposition, and of waiting two meetings before it is discussed and balloted for, is “not to be construed to extend to the ordinary business of the Society, or to matters relative to elections.”

2^d *Topic*. The necessary alterations required in the present statutes and bye-laws, with reference to the election of fellows—publication of papers—and the treasurer’s accounts.

We have seen how much may be done, and is to be effected, in the way of improving the present state of the Royal Society—not only without the necessity of a new charter, or any alteration in the existing statutes—but, on the contrary, by simply putting those statutes in actual force. What follows next in the way of reform—equally important for the welfare of the Society—and, indeed, vitally so—is of a nature which, I apprehend, may require the repeal or modification of certain existing statutes, and the enacting of new ones. The objects which demand reform are these.

1. The present mode of *making* fellows.
2. The manner of electing the officers.

3. The system pursued in the publication of the papers read before the Royal Society.

4. The mode of communicating the treasurer's accounts, or of imparting to the Society a knowledge of its funds, income, and expenditure.

With respect to the first of these points, the statutes have provided a certain form for the election and admission of fellows which I have purposely, and, I believe, justly termed the *making* of a "fellow"—for in good earnest nothing can be more absurd or preposterous than that, at each of its meetings, the Society should be entertained with the reading of the same form of certificate applicable to all sort of candidates, signed by a smaller or larger number of fellows, setting forth in a series of hacknied expressions the claims of the candidate, which claims are probably unknown to the rest of the Society, and with equal probability as little known to the larger part of those who signed the certificate.—The smallness of the number of fellows who are required to certify to the claims of the candidate, (three only) is a great encouragement to all sort of persons to become fellows. Such persons readily think that they can hang without inconvenience for the space of ten weeks with a few of their friends' appended to their feet; and that then the chance of coming into the Society at one of its meetings, when none of those who may be acquainted with their *real* merits are likely to be present, will be in their favour. This quick process of manufacturing fellows is, moreover, an interference with the short time allotted to the Society for transacting business, and from the circumstances of its weekly occurrence, and the indifference with which it is viewed, by those present, becomes almost farcical, and tends not to increase the respectability of an F.R.S. On this subject all the prudent and well-thinking members of the Society, whose judgment is worth any thing,

are perfectly agreed. They fully know that, thanks to such a system, the list of the fellows of the Society has not only increased to its present extravagant *club-like* number, but has decreased in respectability in proportion; and that, through the same system, persons have been admitted, and are likely to be admitted, at either of the two next, or any of the future meetings, whose claims are not only slender but problematical. Yet even persons like these are certain of three names to back their pretensions—and will often succeed in getting a member of the council (as stated quite correctly by Sir James South) to violate the freedom of election in distributing letters amongst the fellows to influence their votes—or they will procure a small body of men, most of them recently elected into the Society, and not a few of them, deprived of every scientific character, ready to join, in violation of the by-laws, in order to consider of the best mode of counteracting the conscientious votes of the majority of the fellows, when votes are likely to be against their protégé. It has indeed happened, that on some occasions such a small body of fellows has been found, who not only have conducted themselves as described above, but have ventured to print a report from themselves in favour of a particular candidate, which report, couched in language of defiance, they were permitted by a too good-natured president, to distribute at the very threshold of the Society's apartments on the evening of the appointed ballot of their protégé. In this way, and by a measure as objectionable as it was unprecedented, a number of individuals, headed by one, who, however eminent he might be considered in one of the branches of the Fine Arts, has no more pretension to science than have the few square inches of board on which he sits at the Society, have succeeded in influencing the votes of their co-fellows, and thereby violated the freedom of election.

Both Mr. Babbage and Sir James South have made some very pertinent remarks upon the singular facility with which any one may, even if resident in the country, by an order to his agent in London, become a fellow of the Royal Society ; and I may add to their testimony the result of my own experience in these matters (which extends to many years), that with one exception, the very few candidates that I have known rejected, had been so from motives which it is more easy to divine than proper to describe. The single exception to which I allude, and in which the rejection of the candidate, though backed by every art and subterfuge of official and bureaucratic influence, was a manifest act of justice in behalf of science—occurred only a few years back, and was principally ascribed to the open, candid, and manly conduct of a great friend of science, who knew, better than any one else, the unfitness of the candidate, from having been at the head of a service in which the candidate filled at one time a subordinate situation, but in which he afterwards occupied, how justly God knows, a higher office.

The best mode of obviating all these inconveniences to the Society and serious injuries to science, is simple. The candidate's name, recommended by at least six fellows who are either acquainted personally with the candidate or know him by character, or through his works, to be a scientific man, might be proposed to the Council at their first meeting in every month, for election into that class of the Society for which the pursuits and pretensions of the candidate qualify him ; and this proposition should be made by the fellows of the same class, except as regards those who wish to be admitted into the free class, and who may be recommended and proposed by any six of the fellows.

The Council having registered, according to seniority, in their minutes, the receipt of all such recommendations in the

course of the months of November, December, January, February, March, April, and May—and having during that period ascertained the number of vacancies which may exist in each of the classes, will cause such a number of vacancies to be fairly inscribed on a board in the meeting-room, where it shall remain during the last three meetings but one of the session, together with the list of all the candidates proposed to the council in the course of the session, to fill the vacancies in each respective class, and the names of the persons recommending such candidate. At the last ordinary meeting of the Society, these lists having been previously printed, headed thus: “Lists of Candidates for the vacant Fellowships in the class Mathematics—Astronomy, &c. arranged according to the seniority of their proposition,” should be distributed to the fellows present at the meeting—who shall proceed to elect, out of the whole list of candidates, a sufficient number of fellows to fill the existing vacancies, by marking a number against each of their names, from one upwards, according to the number of fellows to be elected; and the rest of the candidates shall stand over till the next yearly election, unless in the meanwhile they should desire to withdraw their names by application to the Council. This mode of taking the votes of a large community—devised by the celebrated Prony, was adopted at the very beginning of the first French Revolution in every great assembly, as one which renders it mathematically impossible either to exclude unjustly, or to admit improperly any candidate; it being understood that the balloting lists are not to be distributed previous to the meeting at which the fate of the candidates is to be decided. Nor is the circumstance of all sort of direct black-balling being excluded from this sort of numerical ballot, a feature of mean recommendation in its favour. Equally so is another circumstance attending it, namely—that the fel-

lows who elect have an opportunity of marking the comparative degree of estimation in which they hold such candidates as scientific men, by their mode of placing the numbers opposite those candidates whom they desire to see elected.

This plan of reform in the election of fellows of the Society would require the previous repeal of as much of Chapter I. of the Statutes, as in principle and practice is opposed to the present proposition—but once established in virtue of a new statute of the President and Council, we should find in it the following advantages: the abolition of the ridiculous system of certificates, which has seldom prevented an improper person from entering the Society, or a very proper one from being excluded through canvass or cabals—the doing away of the interruption caused by balloting, once, twice or more times every night of meeting, to the great annoyance of every one present, and the interruption of the right business of the Society—the performance of a pleasant task, (now an irksome one) by every fellow who wishes well to the Society, began and ended at one sitting, without much possibility of votes being improperly influenced—the certainty of seeing a commendable selection made by the fellows assembled to perform a solemn act—the exclusion of all black-balling, and consequently the exclusion of every sort of influence, of bad spirit, evil intention and antipathy, previously and systematically combined against any candidate—lastly, the simplicity and facility with which the great duty of recruiting the limited ranks in the Society's classes, could be accomplished by a single operation in each year.

It is manifest that any plan must be better than the one at present in force, by which the number of fellows keep increasing yearly, without a proportionate increase of respectability, and in spite even of a sensible rate of mortality among them, as will be seen from the following tables:—

TABLE

Shewing the Progress of the Balloting-box at the Royal Society, or the Number of Fellows admitted into that learned Body since the beginning of the present Century.

1801 .. 24	1811 .. 29	1821 .. 45
1802 .. 21	1812 .. 25	1822 .. 29
1803 .. 16	1813 .. 16	1823 .. 16
1804 .. 22	1814 .. 27	1824 .. 26
1805 .. 20	1815 .. 32	1825 .. 15
1806 .. 19	1816 .. 35	1826 .. 33
1807 .. 23	1817 .. 26	1827 .. 23
1808 .. 19	1818 .. 38	1828 .. 30
1809 .. 16	1819 .. 46	1829 .. 24
1810 .. 27	1820 .. 32	1830 .. 27 up to the
		4th June
<hr/> 10 yrs. . 207	<hr/> 10 yrs. . 306	<hr/> 10 yrs. . 268

General total of admissions in 30 years 781, being, on an average, 26 every year. But then this average will be found to differ materially, if we compare the admissions of the first *decennium* with those of the third, and still more so with those of the second. For we find that, in the first ten years of the present century, the average rate of admission was $20\frac{7}{10}$, while that of the third *decennium* amounted to $26\frac{4}{5}$, and that of the second to $30\frac{3}{5}$. Hence it is manifest, from this circumstance alone, that an honor which was, in the first ten years of the 19th century, conferred moderately, because guardedly, was, through the remissness of the president and council, so cheaply obtained in the course of the next succeeding ten years, that, for the last ten years, a somewhat smaller number of candidates has solicited the like distinction.

*Analytical and Proportional Table of the Mortality among the F.R.S.
since the beginning of the present Century, and including 1800.*

<i>YEARS</i>	<i>Total No. of Mem- bers.</i>	<i>Total No. of Membs. dead.</i>	<i>Proportion</i>	<i>Names of the most conspicuous Members dead.</i>
1800	513	17	1 in 30*	Wm. Cruikshank—Dr. Howard— Ramsden.
1801	502	20	1 in 25*	Dr. Heberden—Dr. Pulteney—Sir G. Staunton, Bart.
1802	517	19	1 in 27*	Dr. Darwin—Dr. Fordyce—Dr. Monro.
1803	516	20	1 in 26†	Sir William Hamilton—Rev. Dr. Layard—The Chemist Woulfe.
1804	512	16	1 in 32	Dr. Percival—Dr. Priestley.
1805	515	19	1 in 27*	Dr. James Currie—Dr. Patrick Russell, of Aleppo.
1806	513	16	1 in 32*	Bishop Horsley—Dr. Turton—Earl Macartney.
1807	515	18	1 in 29†	Dr. Gray, one of the secretaries, and the celebrated De Paoli.
1808	542	11	1 in 49*	Christian VII. King of Denmark.
1809	548	17	1 in 32*	Sir George Baker—Dr. Pitcairn— Duke of Portland.
1810	547	21	1 in 25*	Tiberius Cavallo—Mr. Cavendish.
1811	548	17	1 in 32*	Baron Dimsdale—Rev. Dr. Mas- kelyne.
1812	540	17	1 in 32†	Dr. Garthshore—Rev. Dr. Hamilton —Mr. Howard—Mr. Kirwan— Sir T. Jones—Dr. Lind—Dr. Willan.
1813	566	12	1 in 47*	Randolph, Bishop of London—Dr. Shaw—Dr. Simmons—Mr. Town- ley.
1814	574	16	1 in 36†	Dr. Burney, Mus. Doc.—Lord Minto —Count Rumford.
1815	578	24	1 in 24*	J. C. Lettsom, M. D.—Marquess of Bute—Shirley, Earl Chesterfield Smithson Tennant.
1816	582	20	1 in 29*	King of Würtemberg—Duke de Bouillon—Duke of Norfolk—Earl Warwick—Mr. Howard.
1817	599	17	1 in 35*	Dr. Combe—Sir J. Earle—Dr. Saunders—Earl Stanhope—Dr. Wells—Duke of Marlborough— Duke of Northumberland.
1818	597	20	1 in 30†	Admiral Bligh, of the Bounty—Rev. Dr. Burney—Warren Hastings— Dr. Haygarth.
1819	609	15	1 in 40*	Dr. Clarke—Mr. Hey—Rev. Dr. Cyrell Jackson—W. Playfair— Mr. Watt.

1820	641	16	1 in 46*	H. M. George III.—Sir J. Banks—Presid. Dr. Fothergill—Rev. Dr. Milner—General Mudge—Sir Home Popham—Arthur Young.
1821	650	16	1 in 41†	Dr. Bancroft—Sir F. Millman—Mr. Rennie—Mr. J. Wilson, Surgeon.
1822	670	20	1 in 33*	Sir H. Englefield—Rev. D. Keate—Sir W. Herschel—Lord Londonderry—Dr. Marcet—Dr. Lee—Sir E. Nepean—Dr. Parry, of Bath—Sir C. Pegge—Dr. Pemberton—Dr. Carmichael Smith—Rear admiral Kinnaer.
1823	687	29	1 in 24†	Dr. Baillie—Baron Best—Earl of Bridgwater—Bishop of Middleton—Lord Erskine—Lord Glenberrie—Dr. Haighton—Dr. Hutton—Dr. Jenner—Colonel Lambton—Earl St. Vincent—Archdeacon Wollaston.
1824	674	11	in 61	Lord Byron—M. Chevalier—Dr. Falconer—Mr. Lowry—Rev. T. Bennett—Baron Mazeres.
1825	675	17	1 in 41†	Higgins, who first hinted the atomic theory in chemistry, was the only person at all conspicuous among the F.R.S. deceased this year.
1826	680	10	1 in 68	Taylor Coombe, one of the secretaries—Dr. Noeder—John Pearson—Sir Stamford Raffles.
1827	685	18	1 in 38	Duke of York—Mr. Canning—Bishop Goodenough—Mr. Cline—Dr. Mason Good—Lord Guilford—Earl Morton—Colonel Beaufoy—Rev. J. Hellins.
1828	689	19	1 in 36*	Sir W. Congreve—Archdeacon Cox—Col. Denham—Mr. Heaviside—Dean Hook—J. Planta—Henry Salt—Sir E. Smith, the botanist—Dugald Stewart—Dr. G. Pearson—and Woodhouse, the mathematician; including Sir H. Davy—Dr. Young—Dr. Wollaston.
1829	692	28	1 in 25†	Sir T. Lawrence—Major Rennel, the geographer—Mr. Chenevix.
1830	687	16		
				up to October

Average mortality in 29 years, not including the current year (1830) = 1 in 34½.

N. B.—There are several inaccuracies in the keeping of these reports in the journals of the Society, which I have endeavoured to correct. In more than one instance I have found the same "fellow" reported dead during two successive years. The deaths are reported here in the years subsequent to their occurrence.

The * or † are intended to specify a small fraction more or a fraction less.

Respecting the publication of papers in the Philosophical Transactions, which form another part of the second topic of my present section—all that I have to say on the subject of reforming the present manner of executing that trust by the council—and with reference to the grounds of such a reform, may be collected—from my observations contained in the first section, where I commented on the two tables of papers read before the Royal Society during the last thirty years, and—from the remarks contained in the present section, where I speak of the appointment of committees by each class of the Society—to whom papers are to be referred, and by whom a report or opinion on the importance of the paper is to be made to the Society, which ultimately deliberates upon, and decides, the question of printing such papers by ballot. The first series of observations sufficiently prove the existence of serious abuses, to which the present mode of judging the authors' papers has been liable; and the second series of observations shew the ready and easy remedy against all such abuses—as well as the propriety of confiding to the Society at large, assisted by the opinions of able practical men, an important decision on which the character of that Society is mainly to depend.

Another very important point of consideration, under this head, is that of the treasurer's accounts. I feel assured that I am speaking the language of the major part of the Society, when I assert that the mode in which the treasurers have hitherto made their report is an insult to the good sense, honesty, and privileges of every member. The money which the treasurer has the disposal of, under directions from the president and council, is the money of the fellows, voluntarily contributed. The manner of disposing of that money ought therefore, in strict justice, to be laid before the fellows yearly. The various sources of the revenue of the Society, their progressive increase or decrease, the nature of its permanent

funds, the state of the funds respectively belonging to each of the foundations for either medals or lectures ; all these points ought to be regularly stated and put before the Society at large. On the other hand, the several and individual items of expenditure, no matter under what head, should be as distinctly detailed to the members in a regular balance-sheet, audited by the five auditors appointed in virtue of the statutes. Besides signing the said balance-sheet, the auditors shall declare that they have *personally* examined every voucher in support and explanation of the items charged. Of what benefit can it be to the Society at large to be told, on any particular year, (take 1829 for instance) “ that the total receipts amounted to the gross sum of £4943. 15s. 8d. (prodigious !) and the total expenditure to £4647, (still more prodigious !) leaving a balance in the treasurer’s hands of £296. 15s. 8d. ? or what satisfaction can it convey to the Society to be told, farther, that five gentlemen, whom custom has destined to become nearly at the same time members of the council, and cannot, therefore, properly be considered as legal auditors, have been examining the accounts and found the balance correct ? No, no ; let the Society keep a watchful eye, in these times of official extravagance, on the expenditure of its own annual revenue, and exert a proper and just control over the office of treasurer. Sad examples have lately started into notice at two of the numerous scientific societies of this metropolis, to warn us against that apathy and neglect of an important duty on the part of those societies, which have been nigh proving destructive of their existence. Let the Royal Society be put on the footing of the Royal Institution, where a distinct balance-sheet is presented by the managers to the members, and discussion promoted by them on the several branches of expenditure. This balance-sheet should be printed, and circulated among the members at the same time with the bal-

loting lists for the general elections, at the anniversary of the Society, and at least one week before such anniversary.

In order to carry this reform into execution, it will be necessary to modify slightly, and add to, the present statutes contained in the 8th Chapter.

3^d *Topic*. The choice of President and Officers of the Society.

The author of this “Expostulation” could not, perhaps, have chosen a more favourable opportunity of introducing his remarks on the general mode of electing the officers of the Society, and his suggestions for improving it, than the present one, when it may be stated in reality that the Royal Society of Great Britain is without a HEAD.

Every well-wisher to science, and those more particularly who take an interest in the proceedings of the Royal Society, and have kept a watchful eye on the conduct of its officers, have long ago foreseen that a state of things such as I have described in the preceding pages could not continue for ever. The indecision of character in a clever and amiable president, who suffered himself, on all occasions, to be swayed by persons of every description and colour, made it soon evident that his administration could not long endure—and that he himself would see the necessity of resigning an office which (to use his own words) had proved far above his energies, and to which he had been raised against his own inclination. Accordingly we find that, in October last, this “*primus inter pares*,” made a communication, spontaneously and in the most direct manner, to a fellow of the Royal Society, declaratory of his absolute determination to resign; and expressive of every sincere desire on his part to promote the election of an illustrious personage to the chair of the Society, if such should be the inclination of that Royal Prince.

This declaration opened at once so vast a prospect of amelioration in the future destinies of the Society, that it was hailed with great satisfaction by a large majority of the fellows, the moment they became acquainted with it. The only fears remaining were, lest the illustrious personage, who had two years before offered to take an active share in the business of the Society, and whose offer had been indelicately passed over by a weak and insufficient council, should now decline to put himself at the head of that Society which he was so well able to ameliorate—and, also, lest the amiable president in office should, in the interval, between his letter and the day of election, change his mind and inclination even more than once. Of these two apprehensions the well-thinking fellows of the Society have, fortunately, seen but one realized—the Royal Duke has, on his part, most handsomely and manfully stood forward to take up the pledge of the retiring president—while the latter has more than once wavered in his original resolution, and failed to exert his influence for the accomplishment of an object which he was himself the first to originate. His Royal Highness the Duke of Sussex has permitted his illustrious name to be mentioned by the numerous friends of the true interests of the Royal Society for the high office of its President; and the largest number of the fellows rallying around that name for salvation, will shew, that the realization of their second fear can have no effect in thwarting the accomplishment of their dearest wishes.

Hitherto no other candidate has been publicly brought forward. Such indeed is the lamentable condition of that List which it has been the principal object of this “Exposition” to *dissect*—that not another person, except perhaps a right honourable member, who has lately quitted a more important office in the commonwealth, could be selected out of it to succeed to the President’s chair in the society, worthy of that honour! Some among us there are indeed, *o quam rari!* who,

with honest intentions, I doubt not, think otherwise; and imagine, that if the chair be filled, either by one of the “noisy ones” who has done *absolutely* nothing for science, “in or out of doors”—or by a *quiet* friend of the “noisy ones” who has written half-a-dozen papers on mathematics and astronomy, and has the further merits not only of being the son of a celebrated foreigner, whose name is registered in the planetary system, but of having been the stipendiary Secretary of the Royal Society—all that is requisite for the honour of that elevated office would be accomplished. Accordingly it has been whispered about, that Mr. Warburton, M. P., Mr. Herschel, Vice-President of the Astronomical Society—and Sir James South, would make excellent Presidents, if elected in rotation. Now, although the former of these gentlemen knows a *good deal*, and the second deals in *infinitesimals*, and *there is no dealing* with the third; I am convinced that such are not the qualifications which will best entitle a candidate to the suffrages of their co-fellows in the election of a President. In behalf of the gentleman mentioned second in the list—much more may be said, and truly said. He is an able astronomer—he is one of the ablest mathematicians in these degraded times of English mathematics*—he is an amiable man—and may be a man of business for ought we know: but far other qualifications are indeed essential to constitute a President of the Royal Society, such as that Society ought to be, and we hope will be at no distant period. The mistake on the part of those who wish to place such a man in so exalted a station lies in this—that they compare what takes place in the bosom of their subordinate societies, and their comparatively insignificant rules of government, with that which ought to be done for, and the laws which ought to govern, our first great parent

* See Mr. Babbage's book.

Society. Some of the "fellows" indeed go so far as to suspect the few who lead those subordinate societies, and who now wish to place persons so comparatively inferior, in the chair of the Royal Society—of being actuated by a desire to annihilate, altogether, the already tottering character of that scientific body, so as to raise themselves on its ruins and reach that pre-eminence for which they have in vain contended. But I repudiate such an idea—unjust motives for any particular line of conduct, in this conjuncture, I will ascribe to none;—but most assuredly will I not be equally indulgent towards them, if it be ascertained that in their pursuit of a favourite object—they proceed clandestinely—break down all the barriers which the statutes of the Society have raised against irregularity—and, in open defiance of them, get a weak set of counsellors to adopt resolutions which they have not the power of framing—much less of executing.

I accuse therefore those "fellows," who at this important crisis, with a tardy avowal of their principles and reasons, have set themselves to work for the purpose of electing one among themselves as President of the Royal Society, of having adopted a line of conduct perfectly irregular and unprecedented. And I accuse the council, of which they form a good proportion, of having violated the statutes in the following instances.

1. In receiving and taking into consideration a requisition of a small number of fellows who *demand*ed from the council information on subjects belonging to the strictly private consideration of the council, or which ought to have come before the fellows at large. Such a proceeding being wholly unprecedented and without authority.

2. In having invited these irregular *requisitionists* to meet the council on a given day, and to assist in their deliberations not only with respect to what the requisitionists had demanded, but furthermore with respect to the actual state of the

society; as if the fellows at large were not worthy to be consulted at a general meeting, if such a deliberation was deemed necessary.

3. In having suffered a resolution to be moved and seconded in the bosom of the *sworn* council, by two of the *unsworn* requisitionists—which resolution was entered in the minutes of the Council and afterwards acted upon. Such a proceeding being in direct violation of the charter, which forbids in the most positive language, all such interference, and has ordained that those only should make *statutes* or new laws—who have been *sworn* members of the council.

4. In having violated the third section of chapter vi. of the statutes, which has distinctly defined the *only* mode by which the election of the council and officers shall be conducted in the society—and to which they have substituted another of their own creation.

5. In having acted upon a mere resolution of their own (as evinced by their irregular and illegal circular of the 19th) which resolution being intended to stand in lieu of an existing statute, (3 of chapter vi.) could only be enforced and presented to the Society after a regular repeal of the old statute, and the regular enactment of a new one, by the council, agreeably to sect. 1 and 2 of chapter xvi. of the statutes. Those sections ordain that for the repeal of an old statute, the question should be propounded as such at one meeting and balloted for, and again propounded as such, and put to the vote at a second meeting of the council; and that, for the proposition of a new statute, the question of the propriety of its being brought forward at another meeting shall be put to the vote at one meeting—and the proposition itself balloted for at a second meeting.

6. In having, contrary to the usages of the Society, canvassed for the situation of new councilmen and officers, in a circular which, through an abuse of power, they have converted into

an official document, signed by their own secretary—thereby attempting to influence the freedom of election, and secure a majority of votes in behalf of a select number of their *personal friends*, among whom the major part of the irregular requisitionists took care to be placed.

7. Lastly, in having sent round another circular for signatures, in order to secure the election of a particular individual of their own number as president; contrary to the well-understood usages of the Society, which forbid every species of open canvass, in favour of either president or councilmen.

There is only one mode at present in force, agreeably to the statutes of the Royal Society, by which a president and council for the ensuing year can be legally conducted. And it is proper that all the fellows should know it.

On the 30th November, being St. Andrew's day, (unless that be a Sunday) the fellows are summoned by letters circular from the president, to meet at the society's apartments at 11 o'clock, for the purpose of electing the council and officers of the society. These letters inclose a general list of the society alphabetically arranged, with the names of the old council of 21 members printed by themselves at the head of the list. The duty of each fellow, regardless of any previous suggestion or recommendation from the council and officers, who have too often assumed the authority of pointing out their successors (as in the present crisis, through the circular alluded to), is first to underline in that part of the list which contains the old council, eleven names of persons whom it is desirable to retain for another year in the council—and, secondly, to underline in the body of the alphabetical list of the rest of the fellows of the Society, including the illustrious names of the members of the Royal Family who are fellows, usually put at the top of the list, ten other names of "fellows," whom it is wished to place in the council for the ensuing year, in the room of ten other "fellows" who *must* go

out by rotation. No power on earth can compel a "fellow" to deviate from this mode of election, as long as Statute 3, Chap. VI. remains unrepealed.

In performing this double operation, each fellow should be aware, that the name of the individual whom he wishes afterwards to raise to the chair of president, must, of necessity, be one of those which he underlines either amongst the eleven "fellows" who remain of the old council, if that individual be found among them, or among the ten selected out of the body at large of the Society. It is ruled by the CHARTER, that the president shall be taken out of the council which is to act with him during the year of his election, and not otherwise.—Thus, then, if the illustrious individual whose claims to the chair of the Society are so strong, is to be raised to the office of our president—care must be taken that his name be one of the ten new councilmen underlined by us in the general lists, as the Royal Duke is not a member of the old council. This circumstance will suggest to the reader, who, as a "fellow," may have received the irregular circular of the expiring council—the singular fact that the fair, candid, impartial, and well-intentioned council of 1830, have taken care to omit altogether the name of the illustrious individual in their irregularly proposed list. *Ex pede diabolum.* But, thank God, that they have so acted. The friends of the Royal Prince whose anxiety to devote his time for the amelioration and welfare of the Society, is as great as that of the larger proportion of fellows to elect him, would have blushed to have seen the fair object of their ambition placed in so illegal a situation, had it been admitted on that extraordinary and irregular list of self-proposed members, by which the privileges of every fellow to select out of the general list are shamefully abridged.

The election of the council being concluded, a list for the election of the president, treasurer, and secretaries, is distri-

buted to each fellow—without any name attached to either office. If a name be introduced at the suggestion of the council, the form is irregular, and may and ought to be resisted by every fellow present. The places for the names should be left blank, and be filled up by each fellow as he thinks best ; care being taken that the names of persons with which the blanks are filled up, whether for president—treasurer—or secretaries, appear in the list of the new council just elected—otherwise the nominations become void.

Having thus cautioned and instructed my co-fellows how to meet the manœuvering of certain individuals on the approaching anniversary, and how to defeat them by following our own straight-forward, instead of their devious path ; I will amuse them a little by the exhibition of two more tables—the contents of which, particularly when compared with each other, will shew how little care has ever been taken in the formation of councils by those who have hitherto held every election in their own hands. These documents speak for themselves, and point out the necessity of reform. They also point out another singular circumstance, namely, that not fewer than fourteen out of those who propose themselves for election as the most preferable and ablest fellows of the Society to be councilmen for the ensuing year, have positively CONTRIBUTED NOTHING, NOT EVEN ONE LINE, NOW OR EVER, towards promoting the object of that Society which they are desirous to govern—“the improvement of natural knowledge !” And yet they have ventured to call themselves, in a lump, the working members of the Society !!

The way in which this singular circumstance is pointed out in the two following tables, is by the absence from those tables of most of their names, except where a Zero is placed against them to signify that those individuals have absolutely done nothing for the Society. But in order that the “fellows” may make no mistake about those individuals, it will


be better to repeat their names collectively in this place, for which purpose I shall take them as I find them in their own illegal circular or advertisement.

0	John Frederick Daniell,	0	W. H. Fitton, M. D.
0	Henry Warburton,	0	G. B. Grenough,
0	John Barrow,	0	J. W. Lubbock,
0	Francis Beaufort,	0	Charles Lyell,
0	M. J. Brunel	0	R. J. Murchison,
0	W. Cavendish,	0	G. Peacock, <i>and</i>
0	Francis Chantrey,	0	Charles Stokes.

It is but justice to say that the gentlemen mentioned 6th, 10th, and 13th, are but young members, although distinguished university-men—that their names have probably been *introduced* without their previous knowledge, and that they are not of the number of the “noisy ones.”

And now let my readers examine the tables themselves, and draw their own conclusions. When they have done so, they will probably peruse with more attention the few words of serious “Expostulation,” with which I shall conclude the consideration of three of the Topics that belong to the present Section. One other Topic, the fourth, I have purposely suppressed at the recommendation of several friends of science. They seem to think that the time is not yet come, when the enormous abuses to which most of the societies in London, yclept scientific, have of late been subject, can be exhibited in all their nakedness, with benefit to the Public.

*List of the Fellows of the Royal Society (1830) who without ever having contributed to "the Improvement of Natural Knowledge" by communications to the Philosophical Transactions, were nevertheless elected once or oftener into the Council of that Society to conduct its administration, scientific—political—and financial; to decide on the propriety of Printing Papers read before the Society; and to influence by their personal recommendation or suggestion the yearly nomination of Officers.**

 The Numbers against each, mark the Years of Administration.

3	Aberdeen, Earl of	2	Gillies, John
2	Allan, Thomas	1	Goodenough, Geo. T.
1	Arden, Lord	2	Gordon, Sir Fan W. . . 35
1	Athol, Duke of	1	Greenough, G. B.
1	Babington, Wm., MD... 5	1	Halford, Sir Henry
2	Barnard, Sir F. A.	1	Hamilton, W. Richard
5	Barrow, John	2	Hardwicke, Earl of
1	Beaufort, Francis	1	Hawkins, John 40
2	Beaufoy, Henry	1	Henley, Norton Lord
1	Bringley, Robert. 10	1	Hoare, H. Hugh
1	Blackburne, John	1	Hoare, Sir R. Colt
3	Blake, William	2	Hobhouse, Sir Benjamin
1	Browne, Henry	1	Jekyll, Joseph. 45
2	Browne, Robert	2	Lambert, Aylmer B.
2	Brownlow, Earl 15	1	Lansdowne, Marquis of
1	Burney, Rev. C. Parr	1	Lowther, Viscount
1	Canterbury, Archb. of	1	Macgregor, Sir James
1	Carew, Rt. Hon. R. P.	2	M'Leay, Alexander. . . . 50
2	Carlisle, Nicholas	1	Mansfield, Earl of
1	Carrington, Sir E. 20	1	Mathias, T. J.
2	Charleville, Earl of	3	Maton W. George
1	Clerk, Sir George	2	Montague, Matthew
2	Colby, Colonel Thomas	1	Mount Edgcumbe, E. of
1	Colebrooke, H. T.	3	Mundel, Thomas
1	Crichton, Sir A. 25	2	Nicholl, R. H. Sir J.
5	Croker, J. Wilson	1	Norfolk, Duke of
1	Cullum, Sir J. Grey	2	Orr, Craven
2	Darnley, Earl of	1	Pepys, Sir Lucas. 60
1	Dudley, Earl of	2	Pitt, W. Morton
1	Egremont, Earl of 30	1	Rackett, Rev. Thos.
1	Farnborough, Lord	1	Redesdale, Lord
1	Fly, Rev. Henry	2	Reeves, John

* Finding the names of the persons thus designated in this work, already selected out of the general list by Mr. Babbage, I adopt them as correct to save time—doubting not but he took every pains to ensure accuracy.

1	Rogers, Samuel	65	3	Stanley, Sir Thomas	
3	Rudge, Edward		3	Staunton, Sir G. Thos.	
2	Sabine, Joseph		2	Stowell, Lord	
1	St. Aubyn, Sir John		1	Sumner, George Holme	75
3	Somerset, Duke of		2	Warburton, Henry	
3	Southey, William	70	2	Wilson, Gloucester	
5	Spencer, Earl		1	Yorke, R. H. Charles.	78

21 of whom are Peers.

To complete this picture it is necessary to point out to the reader that, for the last three years, the system of naming fellows, who have not deserved well of the society, to govern its affairs, seems to have been a matter of pride; for we have again out of thirty fellows who during that period were elected into the council, not fewer than eighteen who never contributed a line towards "the improvement of natural knowledge" in the Philosophical Transactions. They are—

Capt. F. Beaufort, R. N.	Right Hon. Sir G. Cockburn . .	10
Charles, Lord Colchester	Henry, Marquis of Lansdowne	
John Wilson Croker	Rev. Adam Sedgwick	
W. H. Fitton, M.D.	Henry Warburton	
Rev. Dr. Goodenough	Henry Ellis	5
John Guillemand, Esq.	Sir John Franklin	15
J. Ayrton Paris, M. D.	Sir Thomas Lawrence	
Robert Brown	Robert Viscount Melville	
Francis Chantrey	Right Hon. Sir George Murray	18

Unquestionably the appointment of individuals eminent for their birth and rank in society may be assumed as a circumstance likely to favour the objects of the Royal Society—but, in order to produce such an effect, it is highly important that the individuals so gifted by fortune should fulfil the duties belonging to their appointment, and thus constantly mingle, while in office, the influence of their fortuitous gifts with the influence of those who have risen to eminence by their talents, education, and labours in the field of knowledge. Now I am prepared to say, that so far from this having been the case, at

council board of the Royal Society ; it is a matter susceptible of demonstration, that, with only three or four exceptions, Earl Spencer, Earl Charleville, and the late Lord Morton, probably not one other of the aristocracy ever attended to discharge the duty to which they were appointed. Hence we lose entirely the magic of their name ; and we see violated that part of the existing statutes of the Society, by which it is declared that “ it importeth much the good of the Society, that such persons may be chosen into the council, as are most likely to attend the meetings and business of the council.”

TABLE XII.

*List of the Fellows of the Royal Society (1830), who have never been Elected into the Council of that Society, although they have Contributed to “ The Improvement of Natural Knowledge,” by one or more Communications to the Philosophical Transactions.**

3	Allen, William	13	Davy, John, M.D.
9	Barlow, Peter	3	Dyllum, L. Weston . . . 20
2	Bauer, Francis	1	Dollond, George
1	Bayley, John	2	Earle, Henry
5	Bell, Charles † 5	1	Fallows, Rev. Fearon
16	Brewster, David	8	Faraday, Michael §
1	Bromhead, Sir E. F.	1	Fisher, Rev. George . . 25
3	Brougham, Henry	2	Foster, Henry
1	Buckland, Rev. W. C. †	1	Gibbes, Sir G. S.
7	Carlisle, Sir A. 10	5	Goldingham, John
1	Caine, Joseph	3	Granville, A.B. M.D.
10	Christie, Sam. Turner	1	Greatorex, Thomas . . . 30
2	Clift, William	1	Griffiths, John
9	Cloyne, Bishop of	2	Hall, Basil
2	Dalton, John 15	2	Harvey, George
1	Darwin, R. W. M.D.	1	Harwood, J. M.D.
1	Davis, Jowet	9	Hellins, Rev. John . . . 35
2	Davy, Edmund	10	Henry, Wm. M.D.

* Like the preceding List this has been adopted with some slight additions, as accurate from Mr. Babbage's Work.

† Put on the Council since Mr. Babbage's Book.

‡ Idem.

§ Idem.

1	Holland, Henry, M.D.	2	Princep, James
2	Hope, Th. Charles, M.D.	4	Ritchie, Mr.
1	Hosack, David, M.D.	1	Robertson, James
1	Howard, Luke. 40	3	Scoresby, Jun. Will. . . 55
2	Hume, Sir Abraham	2	Scott, John, Corse
2	Kidd, John, M.D.	1	Sewell, Sir John
2	Lax, Rev. Wm.	1	Thomas, H. L.
1	Leach, Will. El. M.D.	2	Thomson, Th. M.D.
1	Lee, Robert, M.D. 45	1	Thiarks, Dr. J. L. 60
2	Macartney, James M.D.	1	Troughton, Ed.
2	Macdonald, Lieut. Col.	2	Ure, Andrew, M.D.
1	Miller, Lieut. Col.	1	Weaver, Thomas
1	Parry, Charles H. M. D.	1	Whewell, William
1	Phillips, Richard 50	3	Whitley, Joseph 63
2	Powell, Rev. Baden	3	Williams, T. Lloyd.

Looking to these two Lists and comparing them with the general list of fellows for 1830, we find that one hundred and thirty-three of them have been, at some period or other, elected into the Council of the Society once or oftener, of which number only thirty-seven had contributed toward the improvement of natural knowledge, by their communications to the Royal Transactions. While on the other hand, we see on the same list the names of sixty-six fellows who have never been deemed worthy to occupy a seat in the cabinet, although, by their labours, inquiries, experiments and communications, they have unquestionably contributed to the advancement of "natural knowledge"—at least if one hundred and ninety-one memoirs from their pens, consisting of one-fifth part of the total number of papers, read at the Royal Society, since the beginning of the present century, and actually nearly one-third of those which form the volumes of the Philosophical Transactions, published since the same period of time,* are to be taken as criterions of their usefulness as scientific men.

Do not these facts speak more clearly, than all the abusive language in the world employed by one or two writers, as to

* See my Analytical and Numerical Table.

the spirit which must have prevailed over the selection of the "fellows" who have been intrusted with the management of our community—as to the disadvantage of intrusting such selection either to the President of the Society alone, or to the President and his Council; and do they not, in a great measure, explain the decline of that scientific body?

His Royal Highness the Duke of Sussex has expressed his readiness to undertake the duties of President of the Royal Society, if the "fellows" should think proper to call him to that high station by the expression of their votes, on the approaching anniversary, the 30th of November. To this illustrious Prince, the author of the present "Expostulation" owes no allegiance, either of favour or emolument, but one of unbounded respect and admiration. During a period of eighteen years, his means of judging of the fitness of this highly-gifted individual have been many, frequent, and various—and, in coming to the resolution of supporting the claims of such a personage to the Chair of the Royal Society, the author has only followed the suggestion of his own long experience in that Society, which has taught him to desire ardently, and to uphold earnestly, as President, any one of his "co-fellows," who to commanding rank, should unite commanding virtues and commanding talents.

Such is His Royal Highness. The office to which he will be called requires the exercise of great firmness, guided by dignity of mind and accompanied by urbanity of manners. To give to these qualifications additional influence, an exalted rank in society is also requisite. An illustrious birth enhances the virtues and accomplishments which, in all individuals, command our admiration; and such an additional influence belongs to the Illustrious Candidate. The ardour, the zeal, and the munificence with which the Royal Duke has invariably supported and promoted every institution connected with the education, the medical relief, the welfare, the comforts, and

the happiness of his fellow-creatures, are too well known to us to need being recorded in this place; and if to these we add his love for the liberal arts—his erudition in the ancient idioms of Greece and Rome—his general acquaintance with the principal languages of modern Europe, most of which he speaks fluently and with the accent of a native—his extended acquaintance with English and foreign literature—and his intimate knowledge of the constitution of most of the literary and scientific bodies in England—what “fellow” will hesitate in agreeing with me, that so gifted a Prince ought to be placed in the chair of the Royal Society? It is absurd to aver, that a purely scientific character is what is required to fill the office of president of our Society. Alas! experience repudiates such an assertion. On no occasion has that scientific body flourished less, than under the rule of a purely scientific president. Let my readers cast a glance at the Table of Presidents which I have added to my publication, from the first year of the foundation of our Society until the last year of the administration of our present chief, a pure mathematician—and then let them turn to the volumes of the Philosophical Transactions—and to the minutes of the proceedings of the Society, preserved in the Archives. I desire no better method of judging this question. The conclusion will be amply in favour of HIM who, equally the patron of every science, is neither attached to, nor professes, any particular branch of it.*

There are a few amongst us, who think that the Duke of Sussex is of too exalted a rank to amalgamate with the business of the Society and the feelings of its “fellows.” Others who are apprehensive, lest either his health or his numerous other avocations should prevent him from regularly attending

* Of 23 presidents who ruled the Royal Society, this table records only seven who were, in reality, men of science. Most of the others were learned men, and men of exalted rank.

the meetings of the Society. And there exists another class of undecided "fellows," who would feel inclined to elect His Royal Highness, but for the fear they entertain that he might be inimical to that legitimate and wholesome reform of abuses existing in the Society, which can scarcely be retarded another year without danger. To all these I would answer, that the rare example of assiduity, condescension, perseverance, and liberality which this illustrious individual has afforded us, in every circumstance and trying occasion in which he has been placed, is a full guarantee to us all, that in the exalted station to which we are about to raise him—those valuable endowments will not fail him. He has, indeed, declared that he will devote his time and attention to the interests of the Society—that his palace and his library will be equally accessible to the fellows—that he will correct abuses—protect alike every branch of science—and keep aloof from every party until there shall exist but one in the Society, unanimous in promoting its real interests. Is the Duke an untried man as CHAIRMAN or HEAD of any public establishment, that we ask whether he will be regular in his attendance? Look at the multifarious meetings of that philanthropic society, the members of which call themselves Freemasons, and over which he has presided in chief for many years! Laborious and highly-responsible station! whose ramifications extend all over Great Britain, and on which depend, the annual distributions of several thousands of pounds and the management of many highly important establishments—far more complicated than those of our Society. Has *he* ever been found absent on any occasion, except when visited by illness? Is the Duke an untried man as CHAIRMAN or HEAD of a popular and mixed assembly, that we ask whether his exalted rank will not prevent him from amalgamating with our interests and our feelings? Look at that useful and numerous body, the Society of Arts, at the head of which the illustrious

Duke has been exerting the most beneficial influence for many years. Has he ever shewn any disinclination to enter into the feelings of the meanest individual there? Has he not always taken the most lively interest in its welfare by personal interference? Does he not yearly condescend to pass many hours in the performance of a long ceremony—the distribution of prizes to every class of citizens, to all of whom His Royal Highness never fails to address some kind words of encouragement? Is the Duke an untried man as CHAIRMAN or HEAD of an useful and important institution, that we ask whether he will reform abuses? Consult the Journals of the QUEEN'S HOSPITAL—and you will find with what indefatigable and unceasing assiduity he attended meeting after meeting at that institution, for the purpose of eradicating deeply-rooted abuses, in which he at last succeeded by the exercise of his great and commanding personal influence, guided by quick penetration and sound judgment—aided by firmness—and tempered by equanimity.

But I will even borrow the sentiments of those very individuals who now affect to find that His Royal Highness lacks the proper qualifications for the chair of a scientific society—and shew to my readers, that when that illustrious Duke condescended to become a member of their subordinate scientific Society (I allude to the Astronomical Society of London, out of which come the *Requisitionists and the Oppositionists* on the present occasion,) those very individuals, than whom none can there be more respectable in their private characters the Bailey, the Herschel, the South, the Babbages, and others—thought and spoke very differently, and this not quite two years since!

“ Among the accessions to the list of members, during the course of the preceding year, the council notice with the most gratifying feelings the name of H. R. H. the Duke of Sussex—the Patron of every good and useful undertaking

—a Prince highly distinguished for his zeal in promoting every branch of science” !!

Hear this language of the astronomers, O readers, as given in the ninth report of their Society, and decide whether their consistency or their opinion be the most valuable.—But let His Royal Highness have the benefit of your decision if you be “trusty fellows and true,” and secure by your vote a triumphant majority to that illustrious Prince—the only individual among us who can save our Society from its impending fate and dissolution.

THE END.

Table of the Presidents of the Royal Society since the Foundation.

<i>By the Charter.</i>		<i>Presided Years</i>
April 22, 1663.	William, Lord Viscount Brouncher.— (Not a scientific man.) }	14.
<i>Elected.</i>		
Nov. 30, 1677.	Sir Joseph Williamson, Knt. — (A statesman, and a benefactor of Queen's College, Oxford, but not a scientific man) }	3.
1680.	Sir Christopher Wren, Knight.—(Ar- chitect, and well versed in mathe- matics) }	2.
1682.	Sir John Hoskins, Knt. and Bart.— (Not a scientific man. The son of a lawyer) }	1.
1683.	Sir Cyril Wyche, Bart. }	1.
Dec. 1, 1684.	Samuel Pepys, Esq.—author of several Improvements in the King's Navy, and Secretary to the Admiralty. . . }	2.
Nov. 30, 1686.	John, Earl of Carbery—nothing known of this President }	3.
1689.	Thomas, Earl of Pembroke and Mont- gomery }	1.
Dec. 1, 1690.	Sir Robert Southwell, Knt. }	5.
Nov. 30, 1695.	Charles Montagu, Esq., afterwards Earl of Halifax.—(A poet and statesman.) }	3.
1698.	John, Lord Somers.—(A literary cha- racter, and Lord Chancellor.) . . . }	5.
1703.	Sir Isaac Newton, Knt. }	24.
1727.	Sir Hans Sloane, Bart.—(A naturalist and physician.) }	14.
1741.	Martin Folkes Esq.—(An antiquarian in every respect, but not a scientific person.) }	11.
1752.	George, Earl of Macclesfield.—(Not a scientific person.) }	12.
1764.	James, Earl of Morton.—(Not a scien- tific man.) }	4.
Oct. 27, 1768.	James Burrow, Esq. }	1 month.
Nov. 30, 1768.	James West, Esq. }	4 years.
July 7, 1772.	James Burrow, Esq. }	4 months & 25 days.
Nov. 30, 1772.	Sir John Pingle, Bart.—(Physician only.)	6 years.
1778.	Joseph Banks, Esq. (afterwards Right Hon. Sir) }	42.
June 29, 1820.	W. Hyde Wollaston, M.D. }	5 months.
Nov. 30, 1820.	Sir Humphry Davy, Knt. and Bart. . . . }	7 years.
Nov. 13, 1827.	Davies Gilbert, Esq. M. P. }	
Nov. 30, 1827.	Davies Gilbert, Esq. M. P. }	39 months.

TABLE

Of the two Secretaries of the Royal Society since the Foundation.

<i>By the Charter.</i>	A.	B.
April 22, 1663. John Wilkins, D.D. <i>Elected.</i>		Henry Oldenburgh.
Nov. 30, 1668. Thomas Henshaw, Esq. 1672. John Evelyn. 1673. Abraham Hill. 1675. Thomas Henshaw.		Nov. 30, 1677. Nehemiah Grew, M.D. Robert Hook.
Nov. 30, 1679. Thomas Gale, D.D.		
Nov. 30, 1681. Francis Aston, Esq.		Nov. 30, 1682. Robert Plot, LL.D. 1684. Mr. W. Musgrave. 1685. T. Robinson, M.D.
Dec. 9, 1685. Both secretaries re- signed.		
Dec. 16, 1685. Sir John Hoskins, Bart.		Thomas Gale, D.D.
Nov. 30, 1687. Richard Waller, Esq.		Nov. 30, 1693. Hans Sloane, M.D.
Nov. 30, 1709. John Harris, D.D. 1710. Richard Waller, Esq.		Nov. 30, 1713. Edmund Halley, LL.D.
Jan. 13, 1714. Brook Taylor, LL.D.		
Dec. 1, 1718. John Machin, Ast. P. Gresham.		Nov. 30, 1721. James Jurin, M.D. 1729. Wm. Rutt, M.D. 1730. Crom. Mortimer, M.D.
Nov. 30, 1747. Peter Daval, Esq.		Nov. 30, 1752. Thomas Birch, M.D.
Nov. 30, 1759. Charles Morton, M.D.		Nov. 30, 1765. Matthew Maty, M.D.
Nov. 30, 1773. Samuel Horsley, LL.B.		
Nov. 30, 1776. Joseph Planta, Esq. 1778. Paul H. Maty, A.M.		
May 5, 1784. Charles Blagden, M.D. 1797. Ed. W. Gray, M.D.		
Nov. 30, 1804. W. H. Wollaston, M.D.		
Jan. 22, 1807. Humphry Davy, Esq.		
Nov. 30, 1812. Tayler Combe, Esq.		
Nov. 30, 1816. W. T. Brande, Esq. 1824. I. F. W. Herschel. 1826. J. S. Children. 1827. Peter Mark Roget. 1827. Capt. E. Sabine, R.A.		

TABLE

Of the Foreign Secretaries appointed by the Council.

11, April,	1723....	Philip Henry Zollman.	
18, April,	1728....	Dr. Dillenius and Dr. Schuchzer	} Appointed by the Council in room of Dr. Zollman, (he being obliged to attend the Congress at Sois- sons) till his return.
29, August,	1748....	F. Stack, M.D.	
20, November,	1751....	J. Parsons, M.D.	
4, March,	1762....	Matthew Maty, M.D.	
11, December,	1766....	John Bevis, M.D.	
13, February,	1772....	P. Henry Maty, M.A.	
30, May,	1774....	Mr. Joseph Planta.	
14, January,	1779....	Mr. Charles Hutton.	
17, June,	1784....	Rev. Charles Peter Laya, D.D.	
22, March,	1804....	Thomas Young, M.D.	
30, November,	1829....	W. T. Brande, Esq.	

The indulgence of the reader is requested, on account of the following

ERRATA.

Page 4, line 31, *for This, read His.*

- | | |
|------|--------------------------------------------------------------------------------------|
| 9, | 4, an s to administration. |
| 10, | 1, <i>for totibus, read totis.</i> |
| 21, | 10, <i>dele the second syllable in Lalalande.</i> |
| 31, | 24, <i>for or the, read or in the.</i> |
| 32, | 18, <i>dele own.</i> |
| 45, | 17, <i>for 48, read 57.</i> |
| 46, | in the list of surgeons, the name of <i>Mr. Win. Lawrence</i>
should be included. |
| 61, | 21, <i>for relic, read relict.</i> |
| 67, | 5, <i>for continuation, read contraction.</i> |
| 70, | 8, an s after decision. |
| 71, | 20, " after motion. |
| 76, | 24, <i>for acadamecians, read academicians.</i> |
| | 28, <i>dele the.</i> |
| 79, | 11, <i>for de prædico, read de prædicto.</i> |
| 88, | 8, <i>for its, read their.</i> |
| | 13, <i>dele s in arrangements.</i> |
| 89, | 14, <i>for on, read in.</i> |
| 94, | 24, <i>dele date.</i> |
| 104, | 6, <i>dele s in merits.</i> |
| 107, | 12, <i>after which, add the election of.</i> |
| 116, | 30, <i>for appressive, read apprehensive.</i> |