mission to Madrid by Lord Palmerston, to aid in fixing the foundation of a new commercial treaty. While at the Rock, he kept an observatory at his own expense, for the purpose of giving the exact time to shipping; and owing to his earnest recommendation, a light-house was erected on Europa Point. He was recalled to England, and appointed Captain-Superintendent of Deptford Dockyard, where he remained from April 1838, to August 1841; during which period he was usefully employed in carrying strict economy into that establishment. When the Astronomer Royal instituted his successful experiments on iron-built ships, for the purpose of discovering a correction for the deviation of the compass produced by the iron of the ships, Captain Shirreff rendered such cordial co-operation, that in the admirable memoir of the proceedings published in the *Philosophical Transactions* for 1839, Mr. Airy thus expressed himself:—"To all the persons named above my cordial thanks are due for the zeal and steadiness with which they followed out my plans under the most distressing circumstances of weather. But to Captain Shirreff in particular an acknowledgment of my obligations must be here given. Not only was the assistance of men and materials from the Dockyard furnished by Captain Shirreff in the way which I thought most desirable, but by his presence and by the interest in the operations which he displayed, the services of all the subordinate persons were rendered fully efficient; while the part which he took as an active observer, from the beginning to the end, materially lightened my labours, and increased my confidence in the results."

From Deptford, Captain Shirreff was removed to the more important Dockyard at Chatham, which he actively presided over till November 1846, when he obtained flag-rank as Rear-Admiral of the Blue. On the 1st of September last he was appointed Admiral-Superintendent of Portsmouth Dockyard, and entered upon his duties with his usual zeal and ability. But his health, which had been greatly shaken by his various services, had been in a declining state for a considerable period; he bore this, however, so well that none but his intimate friends were at all aware of the extent to which he suffered. On the 30th of November he expired of an effusion into the lungs, at his official residence, in his 63d year. Having died in command, his remains were honoured with a public funeral on the 8th of December, being interred in the Military Garrison Chapel at Portsmouth, attended by all the civil, military, and naval authorities, under the usual ceremonials. In him the service lost an excellent and strict officer, the community a polished gentleman, and this Society one of its early and active members.

The Rev. WILLIAM PEARSON, LL.D. F.R.S. F.R.A.S., &c. Rector of South Kilworth, and one of the Board of Visitors to the Royal Observatory of Greenwich, was born at Whitbeck, Cumberland, on the 23d April, 1767. He was educated at the grammar-school of Hawkshead, and is said to have very early shewn a

strong liking for mechanism. While residing at Lincoln he constructed a portable clock (still in the possession of his family), which shewed the phases of the moon in conjunction with the ordinary time. He contrived and executed various machines for exhibiting and explaining astronomical phenomena, among which are mentioned various planetariums, and an exemplification of the system of *Jupiter*. Finally, he constructed "a large Orrery with equated Motions," of which there is a description by himself in Rees' *Cyclopædia*. He made too, with his own hands, an altitude and azimuth instrument, which is now in the possession of Mr. Patrickson, his nephew.

In 1811, Dr. Pearson became the proprietor of a celebrated establishment at Temple Grove, East Sheen, where many of the nobility and gentry received their preparatory education. Here he built an observatory and furnished it with instruments.

In 1817, Dr. Pearson was presented by Lord Chancellor Eldon to the rectory of South Kilworth, Leicestershire, where (after quitting Temple Grove in 1821), he constantly resided. An observatory was at first arranged in a new wing to the rectory-house, but he ultimately erected a detached observatory on a considerable scale, and at a convenient distance. Here he set up the principal instruments which he had collected, and employed a permanent assistant, whom he carefully trained in observation and computation.

Dr. Pearson contributed very largely to Rees' *Cyclopædia*, having furnished, as we believe, *all* the articles which relate to practical astronomy and to the mechanical construction of timekeepers, telescopes, instruments, orreries, &c. These extend to sixty-three separate contributions, illustrated by 110 plates, which must have given him considerable occupation during the years 1806–1818, when the work was in progress. Probably he derived considerable assistance from his intimate friend Troughton, as well as from Tulley, Hardy, &c., all most eminent artists at that time in their respective callings; still he must have relied mainly on his own practical skill as a mechanician, and on his own personal acquaintance with the tools and methods of astronomy.

In 1824, Dr. Pearson published the first volume of his great work, *A Treatise on Practical Astronomy*, in two large 4to volumes. This first volume consists chiefly of tables, most of which were computed specially for the work under the author's direction. It is dedicated to the President, Vice-presidents, and Members at large, of the Astronomical Society. In 1829 the second volume appeared, dedicated with great propriety to his intimate friend, the distinguished artist Troughton. In this volume Dr. Pearson communicated not merely descriptions of instruments, but whatever his long practice had taught him of precautions in observing, or methods of reduction. At the present time, so great has been the advance of astronomy in the last twenty years, the *Treatise on Practical Astronomy* must rather be considered a book of reference than one of routine and direction. It will always continue to be of great value, and is necessary as a commentary and illustration of this branch

of our science during the generation just past. This laborious and costly work was published at the expense of the author, with a certainty of great pecuniary loss.

When the establishment of an observatory at Cambridge was proposed on the grandest scale, and at an outlay greatly beyond the means of the University, Dr. Pearson contributed fifty guineas in aid of that spirited design.

He was appointed a Visitor of the Royal Observatory of Greenwich by Mr. Davies Gilbert, then President of the Royal Society, when the Board of Visitors was remodelled; and so far as his health permitted, he was a regular attendant on their meetings.

Dr. Pearson retained his mental faculties and bodily strength to an advanced age, though suffering occasionally from attacks of gout. He died at South Kilworth on September 6, 1847. He was twice married, and left an only daughter by the first marriage; the second Mrs. Pearson survives him.

Such are the principal events of Dr. Pearson's scientific life which we have been able to collect. He outlived most of his contemporaries and familiars, or undoubtedly more particulars might have been gathered with profit, and related with interest. To the record of his exemplary professional life as a clergyman and magistrate, we can scarcely be considered parties.

All mention of Dr. Pearson's connexion with the Astronomical Society has been hitherto omitted, in order that it might be presented at once. Unfortunately, even here, there is some uncertainty, which we are not at present able to clear up.

It seems highly probable, that to Dr. Pearson we owe it that an Astronomical Society was founded. Existing documents prove that he took steps to originate such an institution so early as 1812, and that in this laudable attempt he was assisted by Mr. Troughton, Dr. Kelly, and others, whom we find among our earliest and warmest supporters. In 1816 this proposal had taken so much consistency, that Dr. Pearson, at the request of his coadjutors, wrote a preparatory prospectus and address, which were, he says, submitted to Lord Erskine, probably with a view to obtain his lordship's countenance and influential aid.

The documents in our possession do not enable us to trace the origin of the Royal Astronomical Society further back than January 12, 1820. On that day a meeting was held at the Freemasons' Tavern, which agreed unanimously to constitute themselves into a society for the cultivation of Astronomy,* to circulate an Address

* There are two accounts of this meeting, a printed circular, and the MS. minute-book. There is a little difference in form, but not in substance, between the two. The circular ran thus:—

"*London, Jan.* 12, 1820.

"At a meeting of several scientific gentlemen, held this day, to take into consideration the propriety and expediency of establishing a Society for the encouragement and promotion of Astronomy, it was unanimously agreed to form themselves into a Society for that purpose, to be called the *Astronomical Society*

explanatory of their objects, and to invite the co-operation of such persons as were inclined to join their body.

The Address was written by Sir J. Herschel, and is entitled, "Address of the Astronomical Society of London," with the date, "January 1820." It will be found in the beginning of the first volume of the *Memoirs*. Sir John Herschel recollects that Dr. Pearson was active in pressing this service upon him.

On February 8th, the Astronomical Society met at the house of the Geological Society, according to appointment, and assented to the Rules and Regulations (see *Memoirs*, vol. i. pp. 9–20) which were proposed by the Committee: Dr. Pearson was appointed Treasurer *pro tempore*.

At the adjourned meeting of February 29th, the officers of the Society were elected, and Dr. Pearson was confirmed as Treasurer.

of London; and to frame a set of rules and regulations for their government and future proceedings.

It was then resolved,

1. That a Committee of eight members be appointed to draw up such rules and regulations; and that three be a quorum.
2. That C. Babbage, Esq. F.R.S.; F. Baily, Esq. F.L.S.; Capt. T. Colby, Roy. Eng. LL.D. F.R.S.E.; H. T. Colebrooke, Esq. F.R.S.; O. Gregory, LL.D.; I. F. W. Herschel, Esq. F.R.S.; D. Moore, Esq. F.R.S. S.A. and L.S.; and the Rev. W. Pearson, LL.D. F.R.S., be the committee above mentioned.
3. That a general meeting of the Members take place on Tuesday, Feb. 8th, at the house of the Geological Society in *Bedford Street, Covent Garden*, at 7 o'clock in the evening *precisely;* to take into consideration the rules and regulations which may then be proposed by the Committee.
4. That any person (recommended by one of the present members of the Society) who may be desirous of joining the Society at, or prior to, the above-mentioned general meeting, shall (on previously signifying in writing his assent to these resolutions, or on authorising a member by letter to signify the same on his behalf) be considered a member thereof without ballot.
5. That the Committee be authorised to draw up an ADDRESS, explanatory of the motives and object of the Society; and to circulate it in such manner as they may think fit.

"FRANCIS BAILY, Secretary *pro tem.*"

The Minute-book gives the names of all those present; states that they met by appointment, and that, before any other business, they signed the following mutual agreement:—

"At a meeting held this twelfth day of January, 1820, at the Freemasons' Tavern, London, to take into consideration the advantages that are likely to result from the establishment of a Society for the cultivation of Astronomy, we, whose names are hereunto subscribed, being fully aware of the utility of such an institution, do hereby mutually agree to constitute ourselves a society, to be called the Astronomical Society of London, and to be guided in our future proceedings by such rules and regulations as may be formed for such Society, in the manner to be appointed at the present meeting for that purpose."

Then follow the resolutions, and at the end there is a memorandum, "That it was omitted to be stated in its proper place that D. Moore, Esq., was unanimously called to the chair." Until the election of officers, Mr. D. Moore, and Mr. F. Baily, acted as chairman and secretary.

This meagre account is all that can be confidently presented as vouched for by existing documents in the possession of the Society. There is nothing to shew by whom the meeting of January 12th was called, but it is said to have been resolved upon at a dinner-party given by Dr. Pearson at East Sheen, and mainly at his suggestion.* It is clear, that the first proposal of an Astronomical Society proceeded from Dr. Pearson; that this proposal was kept steadily in view by him and agitated for several years; and that he was one of the earliest and most zealous members when it was actually constituted. He continued in office as treasurer for more than ten years, and resigned on June 11th, 1830, when his non-residence in London, and increasing age, made his attendance at the Council too onerous.

A specimen of flint-glass was presented to the Society in 1823, by M. Guinand, of Neuchatel, which, with a disc of English plate, was worked into an object-glass of $6^{in}\cdot 8$ aperture, and 12 feet focal length, by Mr. Tulley. After careful examination (see *Mem. Ast. Soc.* vol. ii. p. 507), the Council offered this object-glass to sale by public tender, the overplus, after Mr. Tulley's charge for working was paid, being designed as a remuneration to M. Guinand. On this occasion, Dr. Pearson alone made a tender, and his liberal offer of 250*l.* was accepted. If we are right, this was at that time the largest object-glass in England, though it has since been greatly surpassed by object-glasses imported from the Continent, and by the works of our own opticians.

The gold medal of the Society was awarded to Dr. Pearson in 1829, for his *Treatise on Practical Astronomy*, when the complimentary address was delivered by Sir John Herschel, at that time President. The unsold copies of this valuable work have been for one or two years stored in our apartments, and were bequeathed by the author to us, along with the illustrative copperplates.

The Society's *Memoirs* contain several contributions from Dr. Pearson. It is understood that he left a Supplement to his "Catalogue of Stars within 6° of the Ecliptic," in considerable forwardness.

We regret that this notice of a member who has borne so large and so influential a part in the Royal Astronomical Society should be, as it is, manifestly imperfect, and we hope that additional infor-

* Some of the surviving original members have been consulted, and their impression seems to be that Mr. Baily had the principal share in the actual foundation of the Society. There is much internal evidence of his management in the business-like course pursued on February 8th; and however the Society may have originated, he was the chief agent in carrying out the idea vigorously and effectively. The minute-books of the Council, of the ordinary meetings, and of the general meetings, are all in Mr. Baily's handwriting, up to the vacation in 1822. But though it may appear clear that, from the first attempt at a union, Mr. Baily took that share of the actual details which he never relinquished, it must not be forgotten that Dr. Pearson was the first to whom it suggested itself that a Society for the promotion of Astronomy was needful and practicable, and was the first who attempted to impress that conviction upon others.

mation may yet be afforded from the recollections or inquiries of our members.

In the last Report the Council recapitulated the proceedings which had taken place with respect to the proposal of a medal for the researches which led to the discovery of the planet *Neptune*. The result was, that differences of opinion with respect to the relative places of M. Le Verrier and Mr. Adams, and the action of the bye-laws provided for such cases, prevented any medal from being awarded. A long and earnest discussion ensued in the last General Meeting upon this negative decision of the Council, for the general tenor of which it is sufficient to refer to the various amendments which were proposed on the question of printing the Report, as given at the end of that document. The result was, that a resolution was carried to the effect that a Special General Meeting should be called to consider of the propriety of suspending the bye-laws relative to the medals, and authorising the Council to award two or more, as might seem fit. The intention was simply to enable a new Council to come to a fresh discussion of the question, without the restrictions which had theretofore made a necessary alternative of the exclusion of one or the other of the two names which are immortalised by connexion with the discovery.

This Special General Meeting was held on the 12th of March. In the meantime it had become apparent, not only that the differences of opinion above alluded to would exist upon any measure which could be proposed, but that they would be likely to produce very serious effects upon the working power of the Society. The necessity of harmony in administrative bodies upon points which are held to contain and announce important principles, is too well known to need proof here; and the number of active supporters of astronomy, possessed of leisure to devote to the business of this Society, is not large enough to allow of an entire Council being chosen by the General Meeting, out of the supporters of one side only of a serious division of opinion. Under these circumstances, the Council could come to no other conclusion than that it was their duty to recommend the Society not to proceed further in the matter: and this course was warmly advised by those of every opinion on the disputed questions. And upon hearing the state of the case, the General Meeting almost unanimously concurred in the same view; and a resolution, to the effect that no further steps should be taken, was carried. The Council remembers with great satisfaction the amicable tone in which the above differences, more serious than any which had ever prevailed in the Society, were discussed at the meetings; and they feel assured that in no public body can the prospect of disunion arising out of divided deliberation be smaller than in ours.

When the time approached for the proposal of a medal for the present year, it became evident that astronomical progress, for the time being, was in a state very different from that in which the framers of our bye-laws found it. At the time when this Society

obtained its charter, it was a circumstance not unfrequently remarked upon that there was a comparative paucity of great things, accompanied by a constant and gradual improvement of routine. Results of remarkable thought, as well as those of remarkable toil, though not wanting, were not abounding as in the days of William Herschel and Laplace; and we were not without those who prophesied that astronomy had nearly reached its resting-place — that the care of our generation and those who should come after us must be to keep the tools of our forefathers in good order, without seeking, or at least without finding, the means of new invention. Though this extreme opinion was far from having ground to stand upon, it may be admitted that the bye-law which restricted the Council to the award of one medal in each year produced no striking inconvenience for many years together. Recently, however, the number of proposals has somewhat increased: and those who were present at the Council in January last could not but admit that the propriety (if one medal only were to be granted) of postponing all claims to those of Messrs. Le Verrier and Adams, obvious as it might be, was accompanied by the full knowledge that there was an unusual number of well-supported claims to postpone. It cannot, therefore, fail to be seen that this circumstance, coupled with the open state in which the medal question of last year had been left, was likely to place the Council in a position of very serious embarrassment.

Fortunately, however, the difficulty increased to such an extent, as, by its own magnitude, to become no difficulty at all. The completion of various astronomical labours of the most distinguished character has marked the course of the year 1847; and the discovery of no fewer than three planets has rewarded two most skilful and assiduous observers. Several members of the Council began to feel that the notion of discriminating between claims so various in character, so well supported in circumstances, so unequivocal in merit, so unexpected in number, must be abandoned — that the epoch must be recorded, as well as the individual men to whom its peculiar glory is due. It seemed as if Astronomy had exhibited the results of every kind of human aid, and had chosen the year 1847 to shew how well she could at once command the highest speculations of mathematical intellect, the laborious perseverance of calculating toil, the discriminating sagacity of the observer, the munificence of mercantile wealth, and the self-devotion of the voluntary exile. An opinion was pretty generally agreed in, almost as soon as first expressed, that something of a more comprehensive nature than any practicable award of medals was demanded by the existing circumstances; and it was felt that a Testimonial, including those to whom those very recent additions to our knowledge were due, would be a proper tribute, as well to them as (if we may say it) to the period which they have rendered so remarkable.

With this feeling existing, it was proposed at the meeting of the Council in November, and on the subject of the medal arriving in due course, that the several Members should propose their candi-

dates for the medal, just as if an intention existed of proceeding to the selection of one in the usual manner. The following names, here taken in alphabetical order, were put forward in answer to the proposal:—Mr. Adams, for his inverse application of the theory of perturbations; Mr. Airy, for his voluntary reduction of the ancient lunar observations made at Greenwich; Mr. Argelander, for his catalogues of stars; Mr. Bishop, for his foundation and maintenance of an observatory which has enlarged the solar system; Colonel Everest, for his completion of the meridian arc measured in India; Mr. Hansen, for his additions to our knowledge of the lunar theory; Mr. Hencke, for his discovery of two planets; Sir John Herschel, for his astronomical labours in the southern hemisphere; Mr. Hind, for his discovery of two planets; Mr. Le Verrier, for his inverse application of the theory of perturbations; Sir John Lubbock, for his researches in the theory of planetary perturbations; Mr. Weisse, for his zeal in the reduction of observations of stars.

On a review of this list, it speedily became apparent that it did not include a name which might not be most worthily added to the list of medallists with which the Society is able to honour its successive volumes of *Memoirs*, and which would not be so added if it stood alone. The plan of the Testimonial was, therefore, resolved on: that is to say, the Council, looking on the proposal as that of a *bonâ fide* departure from the bye-laws relating to the medals, resolved to apply to the Society for power to deliberate upon the proposal. This was done at a General Meeting convened for the purpose on the 10th of December, and the power applied for was granted by an unanimous vote of that meeting. The end was, that the plan was adopted at the meeting of Council held on the 14th of January.

In regard to this Testimonial there are two points which the Council think it necessary to mention. It is confined strictly to astronomical services completed within a recent period—to matters which might reasonably have been expected to have been under ordinary discussion for the medal of 1848. It is impossible, therefore, the Council trust, that they shall be held to undervalue any of the great things which have been done for astronomy by the same or other men at other times. Secondly, no idea of any comparison between those included in the list has been for a moment entertained. A look at the reasons of the various awards will shew that no such idea could possibly have been entertained. The merits, for example, of Mr. Adams and M. Weisse (to take a name from each end of the alphabetical list), are wholly distinct in species, though each are great of their kind. The same is to be said of those whose labours more resemble each other; and in particular, of those of M. Le Verrier and Mr. Adams. Had this been the first occasion on which the Council brought these two names before you, it would have been necessary either to enter on a critical examination of the question which they have referred to history, or to make a somewhat laboured, and perhaps unsuccessful, attempt to shew that the