year. These are sent out West to be "discovered," and rove from field to field, hoping to gather spoils amid mines mouth of the pit. Special cages had been made in which, then sold to innocent collectors! Major Powell spoke on the or stars, icebergs or ocean depths, atoms or antiquities, as in parties of nine, the visitors were lowered to the bottom, a

special attention has from the first been given to practical the Association, such as now they seldom receive. Possibly electricity. and obviously useful matters, and consequently the survey the British delegates felt called on to do their best in conhas met with popular approval.

Prof. R. S. Ball, astronomer royal of Ireland, on the methods of measuring distances between the stars. It was beautifully illustrated by lantern slides, and his clear, resonant voice made it an agreeable task to listen.

was particularly so in the case of Mr. F. Cope Whitehouse | step in the right direction has been taken by Mrs. Elizabeth proceeded to Philadelphia. Of course there was much disof New York, whose paper two years ago to prove that Fingal's Cave was artificial will be remembered. This year opening of the recent session of the American Association, geology characterizing the region, the best methods of minward. After considerable difficulty he gained a hearing in more, provided others will contribute an equal amount, the the anthracite there were different theories, but the common the Academy of Music, though the Standing Committee interest of which is to be used in promoting special scientific opinion seemed to be that it was due to a chemical process, took pains to disavow connection with the singular paper. Mr. Whitehouse is really an indefatigable investigator, and he might be content to employ his remarkable gifts in a more | other 250 more en route for the Rocky Mountains. To Capt. | familiar. useful manner than by trying to establish such very odd Bedford Pim belongs the honor of originating the movefancies.

All things considered, this may be set down as the most real. successful meeting of the kind ever held on this continent. had been abundantly paid for their pilgrimage to the City of Brotherly Love.

> ----FOR THE ADVANCEMENT OF SCIENCE.

There are said to be in existence, in this and other lands, the thousand scientific societies. Some of these are devoted to special departments of investigation, while others aim to foster all branches of learning; some again are exclusive, being limited to a few individuals of ripe attainments, while too willing to conceal. His noble plea for the rights of com- MAGNETIZATION OF POCKET WATCHES AT THE ELECothers are more popular in their constitution, and aim at as- mon sailors has made him deservedly popular. hembling into one organization all the scientific men of a State or nation. Hand books have been issued giving the and he gave a highly interesting paper on Nicaragua, benames of both American and European scientific bodies, and sides discussing Hilgard's paper on "The Depths of the Sea" also, as far as practicable, a list of scientists in all parts of and other papers. A sufficient number of our British visitthe world, with a brief statement of the specialty of each. ors are burly and ruddy, to keep up the national reputation So vast a directory must unavoidably be characterized by of beef-eating Englishmen; while many of them are so much some errors and omissions; yet the immediate result is cured by the two great popular associations, the British and published list, and for the most part titles are omitted, of Science." These bodies have met recently, the one in whole formidable array. Montreal and the other in Philadelphia; in each case a large number of the sister society attending.

Under the circumstances it is interesting to recall the earlier times, when, instead of being welcomed and feasted and applauded, scientific societies were ridiculed, accused, children. It cannot be questioned that the effect is salutary and persecuted. The Royal Society was organized in Lon- of bringing together so large a multitude of scientific people don in 1620, and had a long fight for existence. It is said from this and other lands. They get acquainted with each that many of its members were so poor as to be unable to other's views, and interchange ideas on a vast variety of subpay the subscription rate of a shilling a week. Among jects. The benefits thus derived arc not only attainable in those excused from this tax was Isaac Newton, who in 1686, laid before the Royal Society the original manuscript of his famous "Principia." Sir John Hill actually wrote a quarto the streets, at the hotels, and especially at the public recepvolume to set forth the crimes, heresies, and conspiracies of tions and during excursions, these men and women, whose that illustrious body, and physicians, clergymen, and fel-minds are trained to think and stored with facts, have lows of the universities joined in the hue and cry. Moved by similar jealousy, King James I. dissolved the Society of Antiquaries. Even within the last quarter of a century, of Music, where lectures were also given in the evening. ignorant men who somehow had gained influence used it The offices were in the Horticultural Hall near by. Secto pour contempt on savants whom the whole world now tions met in rooms provided for them in these and other delights to honor! The last decade has seen an extraordi- buildings. The Union League, University Club, Century into very close proximity to the machine, would not be liable nary improvement especially in the attitude of the devotees Club, Philadelphia Library, Academy of Natural Sciences, to become magnetized to a degree to injure its operation. of science and religion toward each other; and it seems to Zoological Garden, International Electrical Exposition, and But should the wearer of a very fine watch be so unfortunate be mutually agreed that the problems before men's minds various other local resorts were open to members, and the as to injure it in this way, he may readily demagnetize it can only be solved by allowing the largest liberty of thought temptation was perhaps yielded to in the case of some to himself by means of the process last described.

One of the most instructive of the evening lectures was by above suffices to explain the admitted superiority and greater thoroughness of their papers and addresses as compared with our own. We may well imitate their good example.

> The growing demand for an International Scientific Constudy.

ment for the British Association to meet this year in Mont-

The idea was at first regarded as impracticable, and it was ing the American Association to hold its meeting for 1886 in London, and has telegraphed to the Lord Mayor of London for an invitation. The proposition is favorably entertained, although an answer may not be immediately given.

Captain Pim is a typical Britisher, robust, square shouldered of rubicund countenance, energetic in movement, steeped to the lips in Tory prejudices, but broad in his sympathies, and boldly blurting out truths that most men are

His scientific tastes are mainly in the line of geography, like ourselves that they would only be distinguished by the

The entire number of persons in attendance at the Philadelphia meeting must have exceeded 2,000, of whom about 500 were new members, and in many cases members availed themselves of the privilege of bringing along their wives and the lecture hall and the section to which the individual may be attached, but in the vestibules, conversation rooms, on the opportunity to learn from each other.

General sessions were held each morning in the Academy

mythology of the Wintuns of the valley of the Sacramento. the case may be. Of course there are in this country scien. distance of 310 feet. The passageway was lighted by large New Jersey is not a large State, but it has done some re- tists who are wisely following for successive years clearly lamps, and guides were also furnished, who led the way markably thorough geological work, as was explained by marked paths of investigation; but they would be stimulat through the corridors and finally into a chamber about 50 Prof. G. H. Cook, State geologist. The secret of it is that ed by recognition, financial aid, and occasional advice from feet wide, 200 ft. long, and 30 ft. high, which was lighted by

> The seam of coal is 50 ft. thick. The richness of the desideration of the fact that they were on new soil; but the posit was a surprise to many of the foreign tourists, who said they had never seen such a magnificent coal field.

After inspecting the charts and maps in the engineer's office, and the breakers and other machinery, and filling their pockets with specimens, the excursion party were taken gress makes it all the more necessary that liberal financial over the mining fields of the Lehigh Valley R. R, and as-As might be imagined, some of the papers read provoked aid should be furnished, in order to further the aims and cended, in gondolacars, to the top of Summit Hill. Thence discussions, and sometimes matters become unpleasant. This improve the methods of special scientific research. Anoble they went down by the Switchback to Mauch Chunk, and Thompson, of Stamford, Conn. She gave \$1,000 at the cussion going on all the while as to the peculiarities of the he had an elaborate address on the Pyramids, to prove that to be applied to experiments as to light and heat. This is ing, and the utilization of the huge black heaps of waste those immense structures were built from the top down, her second gift in that direction. She has also offered \$10,000 that rose like mountains on every side. On the origin of aided by heat and pressure during a period of plication, re-

Two special trains left Montreal on Sept. 4, one contain- sulting in the driving off of volatile matter in the form of for his own sake we could wish that, for a while at least, ing 300 British scientists bound for Philadelphia, and the gas, leaving the hardened residuum with which we are

We must not forget to mention Mr. Muybridge's entertaining experiments in instantaneous photography of animals in motion, which members of the Association were invited to witness at the Zoological Garden. The botanists also had and when the members dispersed after their week's labors thought that not more than a hundred would go. But fully a charming excursion to the Old Bertram House and the Boand enjoyments, it was with the general feeling that they six times that number responded to the invitation of the Ca-tanical Gardenat Kingsossing. An excursion to Luray Cave, nadian metropolis. Capt. Pim is now enthusiastic in urg- the Natural Bridge, and other points of interest was also ar ranged for at the close of the meeting.

> In cur next issue we intend to give some account of the papers read and work done by the sections.

> The next meeting will be held at Bar Harbor, near Mount Deseret, Maine ; or in case that should not be found practicable, it will be at Ann Arbor, Michigan.

TRICAL EXHIBITION.

In the earlier dynamos, considerable free magnetism existed in the vicinity of the polar extremities of the field magnets, showing a waste of energy due mainly to inefficient armatures. A fine watch brought into the vicinity of one of these machines was certain to become magnetized more or less; in many instances, valuable watches have been utterly ruined in this way. The evil became so great that several gained of bringing men of learning into fellowship with purple badge in addition to the red worn by members of the of our electric inventors undertook to devise apparatus for each other. And the same end is still more effectually se- American Association. No discrimination is made in the demagnetizing watches. One of the earliest of these machines was illustrated in our journal some four or five years American, each avowing its aim to be "for the Advancement which is much better than the British way of printing the since. It was the invention of the well-known electrician Mr. Hiram S. Maxim.

> The magnetized watch was placed in a holder which revolved in every possible direction in horizontal and vertical planes before the face of a powerful electro magnet. At the same time, it was gradually withdrawn from the electro magnet until it was finally practically removed from its influence. However strong the magnetism of the watch when placed in the machine, when taken out of it no trace of magnetism could be found, and the watch, although it refused to go when placed in the machine, would generally be found running as usual when removed from it.

> Another method devised about the same time, for accomplishing the same result, consisted in placing the watch to be demagnetized in a large helix supplied with a rapidly alternating current of electricity, the current being very strong at first and then gradually diminished to nothing. This process was found to very effectually demagnetize a watch. In the more recent and more perfect dynamo-electric machines the magnetism is more completely confined within the machine itself, so that the watch, unless brought

and expression, due respect being paid meanwhile to the see the sights rather than stick to business. Some of our prominent watchmakers, in view of the liabilconvictions of conscience and the intuitions of faith, which According to custom, Saturday was given up to excur- ity of watches to become injured from this cause, have desions-a plan that has many advantages, especially as the | vised watches which are incapable of being magnetized to have a province of their own. This has been made conspientire meeting lasts over a week, and an interval of rest is an injurious degree, and may therefore be used with impucuous more than ever this year, in the public addresses delivered both at Montreal and Philadelphia. The attitude of necessary. An excursion party went to Cape May, another nity by electricians and others who are necessarily brought to Atlantic City, and a third to Long Branch, where they into close proximity with powerful dynamo-electric mathe leading men of these great scientific associations is genewere addressed by Gen. Grant. But the most instructive as | chines. rally reverential, and the fact should be known and appreciated by the religious public. well as enjoyable trip was that taken in company with the What we have said on this subject has been evoked by a The British Association has existed about fifty-four years, mining engineers to the great anthracite coal fields. correspondent who intends visiting the Philadelphia Exhiand the American thirty-three; and while in general aim and About 500 participated in this excursion, which was a combition. As there is no end of electric clocks and systems of plan they closely resemble each other, yet there are points of pliment tendered by the Philadelphia and Reading R. R. electric time transmission in the exhibition, there will be no There were twelve cars in the train, and 16 hours given to difficulty in ascertaining the exact time any where, and we difference. Each has its general sessions and its sections devoted to special departments. But, besides this, the the trip. There were forty "aids" along, for the ex- advise our correspondent, if he has a valuable time piece British Association has not less than forty practically per- press purpose of imparting information. The route was by which might be affected by magnetism, to leave it in the manent committees pursuing definite objects from year to way of Pottstown, Reading, Mount Carbon, to the top of hotel safe while he visits the exhibition, if he desires to be year, and making annual reports of progress; e.g., a com- Broad Mountain. absolutely certain that his watch will not be injured. mittee on meteors, on underground temperature, on lunar Thence the cars were let down Mahanov Plane, which is disturbance of gravity, on patent laws, on the rate of wages, in places on an incline of 20 feet to the 100. The plan was on the migration of birds etc. We heartily second the sug- to visit the Indian Ridge Colliery, for doing which elabo-M. POINCAIRE (Comptes Rendus) contends that the attracgestion, made already by Science, that this feature should be rate preparations had been made. It was a holiday for the tion of the moon modifies the intensity of gravitation. incorporated in the methods of the American Association, miners, and hundreds of them were gathered in line, and seem. Hence at the equator the clock is retarded by half a second promising as it does the achievement of riper results than ed to find great satisfaction and amusement in observing the yearly by the combined attraction of the sun and moon, and are within reach of inexpet and haphazard amateurs, who procession of "sciencers," as it marched from the cars to the advanced a second at the poles.

