THE OLYMPIC GAMES.

After a lapse of fifteen centuries Greece has seen the revival of her Olympic Games, and in this revival it is gratifying to national pride to be able to chronicle that American athletes were more successful than those of any other country. The Olympian Games were the most prominent of many similar periodic celebrations or festivals in other places. The Olympian Games were first held in 776 B. C. in Olympia in Elis. The festivals were celebrated at intervals of four years in honor of Zeus. The importance of the games was so great that the Greeks computed time by them, the period between one celebration and the next being called an "Olympiad." For the country at large the festival ministered to the selfish and maiignant passions of rival cities, each of which felt its honor concerned in the success of the individual. To the winner, however, the games brought lifelong honor, for when he returned to his city the walls were thrown down to give him entrance, he was caught up and borne in triumphant procession and he was freed from all taxes. The games were finally abolished in A. D. 394 by the Emperor Theodosius.

raised amid cheers only to be replaced immediately by the stars and stripes, as the winner had been erroneously announced; for an instant you could almost hear the crowd choke down its bitter disappointment, but after a moment's hesitation it broke out into magnificent applause.

The two great dramatic events were the throwing of the discus and the run of 40 kilometers from Marathon. When Robert Garrett, of Princeton, threw the discus 956 feet, defeating the Greek champion Paraskevopoulos by 71/2 inches, the Greeks felt keen disappointment at being beaten at their own sport. Their chagrin was allayed by the magnificent victory and wonderfulr ecord of Loues in the race from Marathon to Athens, 26.1 miles in 2 hours, 48 minutes.

When the signal gun announced the approach of the winner all rose from their seats and strained their gaze toward the entrance to the Stadium. The cavalry dashed down the street, clearing the way for the runner. He was sighted approaching the goal with weary,

After several disappointments the Greek flag was acute sunburn than in the frigid zone. The heat of ordinary exercise compels him to throw back the hood of his fur coat, and by thus exposing the head not only his entire face becomes blistered, but-especially if he is fashionable enough to wear his hair thin on the top of his head-his entire scalp is affected about as severely as if a bucket of scalding water had been poured upon him. At a later period, Lieutenant Schwatka's entire party, while upon a sledge journey from Marble Island to Camp Daly, were so severely burned that not only their faces but their entire heads were swollen to nearly twice their size. And a fine look. ing party they were. Some had faces so swollen that their eyes were completely closed on awakening from sleep. When one was fortunate enough to be able to see the others, he could not refrain from laughing.

A Great Mosaic,

The British vice-consul in Venice, in his last report, says that mosaics still continue in great demand there. The Venice and Murano Company executed last year panting strides. In an instant there arose a mighty a splendid mosaic for a palace now in course of concry of "We win!" "It is a Greek!" The athlete was struction in Vienna. It measures 1,000 square feet,



ATHENS-SCENE IN THE STADIUM AT THE REVIVAL OF THE OLYMPIC GAMES.

finest amphitheaters in the world. It was scientifi-Its recent restoration was made possible through the king with a diploma. munificence of a rich citizen of Alexandria. It is 656 feet long and 160 feet wide and its seating capacity is 47,500. The empty amphitheater was imposing, but and Crown Prince George. They were hanqueted sevwhen filled with the gayly costumed crowd the scene was one which will never be forgotten by those that tained in various ways. When leaving Greece they witnessed it. What must have been the sensations of the victor when the countless thousands of spectators rose from their seats and the applause of the individuals was blended into one great body of spontaneous and generous enthusiasm? It is little wonder the simple crowns of olive obtained under circumstances like these are held as priceless.

We have already published in the SCIENTIFIC AMERICAN of April 18 a list of the principal events and their winners. The interest throughout the games was unabated and the applause was hearty in the extreme. It was indeed hard for the Greek to see the mer in King William's land, and declares that proba-American flag go up so many times in succession.

of Greece and Queen Olga. The Stadium is one of the would never cease. Then followed, according to the by the symbolic figures of its various nations, having custom of ancient Greece, the bestowal of the much cally excavated in 1869-70 at the expense of the king. coveted olive crowns, which were presented by the the top the emblem of the flying genius of light. On

The American athletes were charmed with the attentions which they received at the hands of the king eral times in the palace of the king and were enterwere serenaded by the people over the whole line from Athens to Patras. It is almost needless to say the American athletes were enthusiastically received at their various colleges on their return. For our engraving, we are indebted to The Illustrated London News.

Arctic Sunburn.

To hear of suffering from heat in the Arctic regions sounds incredible to those who have never been there, says a contemporary. Lieutenant Gilder relates the experience of his party from this cause while one sum bly nowhere on earth is the traveler more annoyed by Messrs. Clayton and Bell, -London Times.

6, while the thousands of spectators rose to their feet, ing a proud salute. Hats and flowers were thrown it must have been a proud moment for King George into the arena, and it seemed as though the appliance Europe stands in the center of the frieze, represented on one side the emblems of industry and trade, and at the right are the figures of Asia, India, China, and Japan, with their rajahs, mandarins, and the allegorical chrysanthemum. Next follows Africa, with camel drivers, palm trees, and other African symbols; on the left America and Australia, with natives on horseback and on foot, foliage, and other emblems. All this variety of types, from the fair Circassian down to the negro, and the display of costumes, from the most decorative to the simplest, have enabled the painter to arrange twenty four figures with great delicacy of color and in an artistic manner. Over these figures, which rest on an ornamental base, a blue sky reflects all around its light so as to unite all the tints of the mosaic, and to give the whole a harmony of effect which is said to be most delightful to the eye. The same company is executing another important mosaic for the apse of the Guards' Chapel at the Wellington Barracks, in London, from cartoons painted by

Measuring Ocean Storms, BY GEORGE ETHELRERT WALSH.

The study of ocean storms has been of inestimable value to the shipping interests of this country, and are frequently caught in the circular winds which each year the laws of sea storms are understood more form the center of the cyclone. The peculiar revolving greatest benefit upon mankind, we publish the accomperfectly through the indefatigable efforts of the United States hydrographic office. The collection of the waters, and the rough seas are about as dangerous meteorological observations by telegraph on land was as the cyclone itself. The first duty of the captain very simple compared with the labor that confronted the scientists a few years ago engaged in predicting eral direction in which the storm is moving, and then the condition of the weather on the ocean. No tele- either to sail or steam away from the center. Unless result of the vote will be published in the Special graph stations presented them with elaborate data one understands the laws of sea storms, it is impossiabout the force and direction of the wind, the condible to make the right course, and the ship is practition of the air and temperature, and the many other; cally helpless and at the mercy of the elements. Belittle points so essential to the weather bureau in fore the hydrographic office elaborated the present arriving at their conclusions. It is an exact, but sim-system of avoiding storms at sea, it was mere good ple, science now which forecasts the weather on land. luck that would enable a captain to escape from the A study of the reports invariably gives correct knowledge concerning the atmospheric conditions that are likely to prevail in certain localities during the following twenty-four hours.

sponsibility greatly lessened.

affairs has been long and difficult, as well as ingenious The prevalence of fogs in certain localities at different plained in our issue of a few weeks ago, vol. lxxiv, No. and interesting, and the landsman hardly appreciates times of the year is indicated, and descriptions of 3. As has been stated, the gist of the invention or what has been done by the government to protect the ocean currents and trade winds. Altogether the improvement lies in inclosing the circuit breaker of ships from danger. In order to measure the storms, it Monthly Pilot Chart is a compend of sea lore that is the primary circuit of an induction coil in a vacuum was necessary to obtain reliable data. The force and indispensable to every mariner. direction of the wind over a wide extent of ocean territory had to be ascertained, as well as the height of attempt a few years ago to determine accurately the the barometer and hygrometric state of the air. In direction and force of ocean currents. Form slips of the absence of telegraph stations, the hydrographic paper were given to the captains of vessels, who office had to establish stations on the ships and dropped them into the sea at different points, giving discharges from the terminals. steamers. Forms for keeping observations were issued the date, latitude and longitude. Descriptions of the by the office to every captain of a vessel touching any bottles were forwarded to our consuls in all parts of American port. These forms were to be filled out and the world, and efforts were made to collect them on mailed to the headquarters at Washington. In return every coast where they might drift. Between one for this labor every captain who complied with the and two hundred of these bottles were collected and rules received free the monthly pilot chart and all of forwarded to the Hydrographic Office at Washington. the publications of the hydrographic office.

tion, the office obtained full and complete reports of compiled. These maps of the ocean currents are toevery storm by a great number of sailing masters. day the best in existence. The vessels would be scattered over a wide territory, some being near the center of the storm, others on the ton, branch offices have been established at New York, edge, and a few outside of the storm area. The reports Philadelphia, Boston, Baltimore, Norfolk, Savannah, gave detailed meteorological information about the New Orleans, San Francisco, and Portland, Oregon. clouds, temperature, height of barometer, force and Complete copies of all the publications of the departdirection of wind, amount of rainfall, and the hygro- ment are kept on file at these branch offices, so that metric state of the air. It would be several weeks captains can consult them at any time. Weekly after a storm before all of these descriptions would | notices of the weather are sent to these branch offices, reach Washington, but when they were all in they and very few captains start out upon a voyage with were studied carefully. From this pile of data a map out first consulting the weekly forecast of the weather. of the storm was constructed, showing its exact move- If storms are indicated in his pathway, he is very apt ment and action from its inception to its final de- to wait a few days, or change his course. The most struction. A repetition of this method soon enabled complete set of charts in the world are also kept on the department to construct a great number of maps file at each branch office. These are made up from of ocean storms in all parts of the world, but more estithose of the coast survey, the hydrographic office, and pecially of those along the Atlantic coast.

ture of sea storms. From them the office constructed them a captain can determine what maps he will need the storm maps and charts, and compiled the rules for a certain voyage, and what other information conand directions that are given to mariners when en-cerning the wind, tides, and weather. countering a storm at sea. These directions enable. The hydrographic office is now divided into the the captains to ascertain, in advance, the approach of divisions of sailing directions, meteorology, archives, a severe storm, and to determine whether it is a mild, chart construction, and charts. The hydrographer of ordinary gale or a hurricane. If a dangerous storm, the navy is at the head of the department. Each of the various steps of his demonstration. rules are given to determine its center. With this in- branch is under a special officer, and their publicaformation furnished, the captain of an ocean steamer tions are kept right up to date by an interchange of can steer to one side and encounter only the edge of it. bulletins with all foreign governments. The whole Directions are given for a sailing vessel to run in a work of the office and the branch offices is performed certain direction, and if it is necessary to "heave to," with great care and zeal, and probably no other work wires in cities and villages will not destroy a large proexplicit information is given as to which side she of the government does so much toward saving life portion of the trees. Complaint is made in several should be brought to in order to prevent being "taken; and property as this one.

The hurricane is a dangerous storm upon the ocean either for steamship or sailing craft, and it is essential; for safe navigation that a captain should understand its nature, its force, and the general direction it is to opened by the Emperor Francis Joseph, as King of good conductors of electricity and carry it from the blow in. By consulting the general laws of storms, Hungary, on May 2, bids fair to bring a large number and taking observations of the state of the air and of visitors to that city. The exhibition is intended to has been caused by wires supposed to be thoroughly weather, he can soon arrive at pretty correct conclu- commemorate the millennial anniversity of the founda- insulated, the covering having been rubbed off the sions concerning the approaching hurricane. A few tion of Hungary. It is meant to set forth the moral come up in the tropics with such force and rapidity and intellectual power of the Hungarian people. The the wind. The evidence that the trees have been killthat it is hard work to make proper preparations be-grounds of the exhibition cover 5,000,000 square feet, ed by electricity is furnished by the fact that in numforehand; but of the many vessels caught in the hur- and the buildings and pavilions, numbering 169, were berless instances the trees through which the wires ricanes and wrecked, a vast majority of them are erected at a cost of \$4,020.000. The elaborate series of pass died in an hour during a storm, while those navigated by captains who do not pay much atten- fetes, festivals and historical pageants which will take standing a few feet from the wires were uninjured. tion to the rules and warnings of the hydrographic place within the walls of the exhibition will render it These results will raise the question as to the liability

More dangerous than the simple hurricane upon the expositions.

ocean is the cyclone. The laws concerning this variety of storm are very explicit, but the storm always advances rapidly, and even the most cautious captains action of the wind creates the greatest disturbance of upon the approach of a cyclone is to find out the genfury of a sea cyclone.

The Monthly Pilot Chart is a small publication issued by the department that attempts to forecast the weather in a general way upon the ocean for a The hydrographic office, without the means and month in advance. That this is far more difficult than facilities of the weather bureau, has labored during the predicting the weather twenty-four hours in advance past ten years to accomplish similar results upon the by the weather bureau can readily be comprehended, ocean. Millions of dollars' worth of shipping have and also that it will be apt to contain more errors. been saved by the urgent warnings sent out by the But, on the whole, the forecast by the Pilot Chart is officers of this department. Mariners and sea cap- so near the truth that thousands of mariners abide by tains have been educated by the charts issued by the its warnings. It also gives an exhaustive treatise upon office so that they know which way to run when a the condition of the weather during the preceding storm of a certain kind approaches. The laws of the month. The Chart endeavors to mark the positions of sea storms are carefully compiled, and by following all derelicts upon the ocean, tracing them from day to the directions on the storm charts, the captain of a day as they drift about, so that sea captains can be on the evening of May 6, Mr. D. McFarlan Moore gave sailing craft or ocean steamer finds his danger and retthe lookout for them when in the neighborhood of an interesting and successful demonstration before the their last appearance. The breaking loose of buoys, members of the National Electrical Association of what The work of arriving at the present condition of beacons, and other sea marks is accurately recorded. he termed ethereal electric light, which was fully ex-

The hydrographic office made the first successful From the course taken by the bottles elaborate and By this system, when once put into general opera- trustworthy maps of the currents of the ocean were

While the main hydrographic office is at Washingthose purchased from the British Admiralty. These These maps furnished the data for studying the na- charts are used more for references. By studying

The Millennial Exhibition at Budapest,

Notice to Our Readers.

In order to obtain the opinion of the readers of the Scientific American as to what invention introduced within the last fifty years has conferred the panying card, which please cut out and return to the editor. Those who preserve the paper for binding and do not desire to deface their files, or who read this notice at a library, will please answer by postal card. It is desired to get as full a vote as possible. The 50th Anniversary Number of the Scientific Ameri-CAN on July 25.

Editor of the Scientific American.
Dear Sir:
I consider that
本
invented by
Editor of the SCIENTIFIC AMERICAN. Dear Sir: I consider that invented by has conferred the greatest benefit upon mankind. Name Address **********************************
Name*
Address *
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The Ethereal Electric Light.

At the National Electric Exhibition in this city, on tube, whereby a perfect make and break contact is made without any loss to the contact surfaces. A continuous uniform vibration thus ensues which, in turn, produces continuous and uniform pulsations in the fine wire of the induction coil, producing uniform

He illustrated on the screen many forms of tubes and explained their characteristics. He could obtain better results with a glass tube in which there was a partial vacuum without any interior wire terminals than with, and simply wraps a piece of wire around the exterior ends of the tube, which is enough to produce a glow in the interior.

A very singular experiment was the holding in one hand a connected tube which glowed brilliantly, and the taking hold of the hand of another person who held at arm's length a second tube. As soon as the hands were grasped the second tube began to glow with half the intensity of the other. The use of a suspended wire screen from the ceiling was shown. Being connected with the regular terminals of the induced coil, it produced a magnetic field of some kind, causing tubes of glass held in the hand near it to glow very brightly, and suspended tubes in the form of letters of light to appear. It furnished a capital explanation or suggestion for the production of mysterious light at seance circles of spiritualists. Mr. Moore remarked that the quality of this light was more like daylight than any other, and demonstrated what a square inch of daylight would look like; he also showed various forms of incandescent lights operated on this plan, including an example of a real electrical fountain which was very pretty.

The novel applications of the tubes to the lighting of rooms was shown; the light has a peculiar softness that is quite remarkable, and is to be produced so easily that every home can have it. The method is still in an experimental state, but has a good future. Much applause was given the lecturer on the success

Damage to Trees by Electric Wires.

It is a question whether the stringing of electric cities that where the wires pass through the foliage the trees in nearly every instance have died, presumably from the effects of the electric current. It has been Budapest is one of the most charming cities of noticed also that the death of the trees almost invari-Europe, and the Millennial Exposition, which was ably follows a season of rain, when the wet leaves are wires to the trees. In some cases the death of trees wires by the friction of the branches when moved by unique, even in this age of national and international of electric light companies for the damage caused by the killing of shade trees.