

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—The vote proposed for public education in Great Britain for the year ending with March, 1869, is 842,554*l.*, an increase of 136,689*l.* over the vote for the fiscal year just expired. The calculation based upon the number of scholars in average attendance in schools inspected in the last school year in England, with the per centage added for the ordinary increase, gives 985,200 as the estimated average attendance in 1868; but an addition of 45,000 is made for half-timers under the Workshop's Act, and of 16,000 for scholars in congregational and other schools newly admitted to aid, raising the estimated number of day-scholars to 1,046,200. The rate of grant is estimated to be raised, under the Minute of February, 1867, to 9*s.* 10½*d.* per scholar. Hence the education vote of this session will make provision for 1,046,200 day scholars at 9*s.* 10½*d.* in elementary schools fulfilling the article requiring certificated teachers, the amount reaching 516,561*l.* instead of the 427,345*l.* of last Session's vote, and 56,340 evening scholars at 6*s.* 6*d.*, requiring 18,310*l.* To this has to be added an estimate for the present year for scholars, under the new system, in schools not fulfilling the article requiring certificated teachers. It is calculated that if, on annual average, a million scholars be attending aided schools, there remain 500,000 attending unaided schools of the same class, and that 100,000 of them are in schools with an average attendance not exceeding 65—the limit proposed; of the 100,000 a certain number were inspected last year, and adding to these one-half of the remainder as the number likely to be at once brought under inspection by the offer of the 8*s.* grant, the total increase to be provided for in the financial year 1868-9 will be 52,500 day scholars. The grant for these, taken at 5*s.* 5*d.*, will be 14,218*l.*, and for 3,000 more evening scholars, at 3*s.* 8*d.*, 550*l.* The total of annual grants for scholars in England, therefore, which was 443,345*l.* in the year 1867-8, will be 549,639*l.* for the year 1868-9. The vote of this session will also provide for ten more inspectors than the vote of last year, making 78, and for three new assistants, making 23 inspectors' assistants. This is caused by the anticipated increase in the number of schools and children to be visited and examined. Two of the additional ten inspectors represent temporary appointments only—viz., substitutes for two of the senior inspectors withdrawn to serve on the commission of inquiry into education in Ireland. Briefly, the education vote for Great Britain to be proposed the Session stands thus:—Office in London 29,482*l.*; inspectors, 64,103*l.*; normal schools, 74,250*l.*; buildings, 45,000*l.*; annual grants, England and Wales, 549,639*l.*; grants to teachers in Scotland, 79,500*l.*; unexpired pensions, 580*l.* Total, 842,554*l.*

—Modern Languages and Physical Sciences have at last been introduced into the famous preparatory school at Eton.

—*Education in Ireland.*—The *London Gazette* has published the names of the commissioners appointed to inquire into matters relating to education in Ireland, and also the instructions issued to them.

These commissioners are to inquire into the nature and extent of the instruction afforded by the several institutions established in Ireland, and maintained either in whole or in part, from the public funds, or by private individuals, voluntary societies or subscribers, or religious orders, for the purpose of elementary or primary education; to inquire also into the practical working of the system of National Education in Ireland; to ascertain whether any and what rules now in force in the schools under the management of the commissioners of National Education in Ireland may be altered or repealed with advantage to the public; and whether any and what regulations may be established in their stead with respect to schools, and to report as to the measures which can be adopted for the further extending of the benefits of education to the people. They are also to inquire and report how far the said National Board has fulfilled the objects for which it was established.

SCIENTIFIC INTELLIGENCE.

—In the middle of August next there will be a total eclipse of the sun of almost the longest possible duration, which will be visible in India, where preparations are being made for a careful observation of this interesting phenomenon. The Indian Government has taken steps to obtain a photographic record of the phenomena presented during the obscuration, in order to gain still farther information as to the physical constitution of the sun. Major Tenant and a party of sappers have spent some days at the Observatory of Mr. Warren De la Rue, at Cranford, in order to perfect themselves in astronomical photography before they attempt the work before them, next August, in India. The telescope to be employed upon the occasion is now in course of construction by Mr. Browning, F. R. A. S., and it is almost an exact copy of the one used at Cranford by Mr. De la Rue.

A new French invention, the Bourbonze Lamp, is exciting some attention from the brilliancy of the light which it produces; equal, it is said, to the

Drummond light, but very much less costly. The combustible is coal gas intimately mixed with air. The mixture, says the "Scientific Review," enters a tube, and then passes through a metallic plate pierced with a great number of small holes, so that the gas is diverted into an infinite number of small jets. These play upon a tissue of platinum wire, and it is not until the gas has passed through this tissue that it is lighted. Under the influence of the heat produced, the platinum soon becomes white-hot, and it is then impossible to look at it with the naked eye. The gaseous mixture is forced through the system by a slight pressure; about one cubic metre of gas is consumed per hour.

Dr. Hofmann announces the discovery of a new acid which bears the same relation to naphthaline that acetic acid bears to marsh gas. A few weeks ago the same eminent chemist communicated to the Royal Society the discovery of "the mustard o.l of the ethyl series."

—*Manufacture of Charcoal, by C. Dromart.*—On account of the value of wood, an economical method of converting it into charcoal is very desirable. The advantage of M. Dromart's method over the old system of burning in heaps is very great, he effects a saving of at least 30 per cent of wood at a comparatively less cost. The apparatus he employs is of a dome-shape, the diameter of its base being 5.25 metres, and its height 4.50 metres. At the top it has a chimney a metre high, and 0.7 metre diameter; this chimney is tubulated, so that a fire can be lighted in it to cause a draught. The framework of the dome is formed of an iron ring, with curved ribs of iron attached to it, and which give the top its dome-like shape; they are connected above by an iron ring, to which the chimney is fixed; the intervals between the ribs are closed hermetically by thin iron plates. The whole iron would not weigh more than two hundred kilogrammes, so that it can be moved about easily. A second iron covering serves as a protection against rain; and to prevent the escape of heat, the apparatus is covered with earth to the thickness of two metres. The holes for the draught and two doors are made of wood curved to the form of the iron-work. For heating the chamber, an apparatus is made of cast iron and Stourbridge clay, and is placed beneath it; to this are connected ten tubes, arranged in the form of a fan, so that the heat may be equally distributed to the whole; by opening and closing these tubes the heat is regulated. The wood is then carefully packed within the chamber in the usual manner, a strong fire is made on the hearth, which is kept burning during the operation, that in the chimney being only used for a short time to create a draught. In ten hours the temperature of the stove is 100° C.; the water then goes off; at 150° C., dark fumes pass out; these are caused by volatilization of the tar; at 330° C., no smoke is seen, and then the process is completed. To obtain a stronger charcoal from denser wood, the temperature should reach 450° C., and should be continued for an hour and a half. The temperature is determined by melting metals. The advantages of this method, beyond the greater yield obtained by it, are, that there is no fear of loss from explosions, men easily learn to work it, and the time occupied in making the charcoal is much less than that required by the common process.

LITERARY INTELLIGENCE.

The Late Peter Force.—Peter Force, who died at Washington on the 23rd, was remarkable as a collector of books and autographs. He went to Washington in 1815 as a journeyman printer from New York, and commenced life at the National Capital by writing for the *National Intelligencer*. In 1820 he commenced the publication of an annual volume of national statistics, which he named the *National Calendar*. This was continued until 1866. He also published, during the years from 1823 to 1830, the official journal during the administration of John Quincy Adams. In 1833 he commenced the publication, under the patronage of the Government, of a documentary history of the American Colonies, of which nine large folio volumes were published, bringing the history from 1774 down to 1779. The plan of the *American Archives* was to publish all the important State papers, letters, narratives and other documents relating to the settlement and history of the United States, from the discovery of America in 1492, to the establishment of the present Government in 1789. In the nine volumes published, there is no comment or opinions of the editors; but the documents presented give a complete and connected narrative of each year's history. Mr. Force spent over fifty years in prosecuting this work, and its publication was finally suspended for want of means. When Mr. Force's library was transferred to the Government last year a large quantity of manuscript prepared for this work was transferred also and the Government may sometime resume the publication.

The Government paid Mr. Force \$100,000 for his library, and it comprised such a collection of rare and valuable books and manuscripts relating to America and American history as could not now be gathered together by the use of unlimited means. The oldest book in his library was printed in 1475, and there were 245 bound volumes of newspapers printed during the Revolutionary war and prior to 1800, and 700 volumes of journals printed in the present century. There were also some 30,000