# ATHENEUM 

J O URNAL

or

## LITERATURE, SCIENCE, AND THE FINE ARTS.

FOR THE YEAR

1845. 



LONDON:
Printed by james holmes, took's court, chancery lane.
PUBLISHED AT THE OFFICE, 14, WELLINGTON STREET NORTH, STRAND, bY J. FRANCIS.
sold by all booksellers and newsmen in town and country.
agents: for scotland, messrs. bell and bradfute, edinburgh ;-For ireland, j. cumming, dublin;for the continent, m. baudry, quai malaquais, paris.

Digitized by GOOgle
MDCCCXLV.

# THE ATHEN $\not 2 \mathrm{UM}$ 

Tournal of Englisb and foreign Yiterature, $\mathcal{E}$ cience, and the fine Mrtso
No. 923.
LONDON, SATURDAY, JULY 5, 1845.

虎


ROYAL COMMISSION OF FINE ARTS.-

JONES'S PICTURE of the BATTLE of TBMERAERLOO, And TURNERSPICTURE of the OLD


Finden's 'Royal Gallery of British Art, Part IV.
 price so. Published by J. Hugarth. 5. Harmarket

THE ALTAR.PIECE of ST. MICHAEL'S




COLLEGE for CIVIL ENGINERRS, and


 of the shetures.of the Invetitution inar be ohtained at the revidence



$\mathrm{H}^{\mathbf{~}}$ORTICULTYURAL SOCIETY Of LONDON.


 Fell wa wh Nocict N be issucd in Regent-strect on the day of Exhinition
o1,
Kecemt strect.


 IANWELL COILLEGIATE SCHOOL. Mid-


TDUCATION.-GERMANY-_The Principal of a respectable Eatablishment at Bonn, on the Rhine,



PREPARATORY EDUCATION.-At a Select
 and earefully EDUCATED on moderate terung by sixters, who
Pay the moetuuremitinn attentin to the healt, happines, and
Pmovement or their apilst For cards, apply to A . B., Mrs Babineement Repoitory, Denmark Hill.

## E


 add Greek languages, the mathernatic, experimental, piililosphlyy
 Ap prospectus may be obtained at M
Holburn: or at the estuhishuncut.
$T O$ PARENTS AND GUARDIANS.-A LADY of the REtahished Church wifhesa RE-ENGAGEMENT R
 otice of any one requirinza Lady in whom they as ment hect th
 Chelscan

K ENSINGTON IAALL_ The Are Inrited to fnopect the arrangements of EducaLhishment in which an earnest atternt to made to edurate, as well
an to instruct, to impart useful $k$ tow edge nad elezaitt accompli h-

 and relisionas culture Threre are likewixe preapratory and junior departinents fur the aopuisition of elementurg knowhedge upon an
orisinal and well trisd phan. which excludes the dangerous excite ment of competition, or the use of any inferiur mative AA few
private pupils are received as parlour boarders, with the privilegs Thitchainz the lectures, suirecs, and convirsati, nal meetinks
hith nre privileged for the improvernent and recreation of the scuiur clase ess.
Kenginitin Hall, Northend, near Kensington.
CONTINENTAL EDUCATION in ENG-



TNSTITUTION de Mme. SAINT-CLAIRE WIIet Tespirn 160 A renn des Champs Flysers a rark - Madam


' ${ }^{\prime}$ O NOBI, WMEN AND OTHERS.-A GENTLEMAN, who has bee: ehasked in the legal Prifession or Wore than I" gears, is desirous, chaptly onaccount of his health, of

 ASYLUM for the INSANE of the MDDDLE Earl Spenser. Patrons. Lord Ashleg, M.P.

 E:dward Hamilion, Mi.D., EL, (iraflun-street

## 





 Por the purpose of estahlishing an Asylum in the ncighbourhod of
Lnndon fir the reception for moderate annual paymenta, of indane
Dereons who are not piaper Pereots who are not paupers, but whese familics are unnble to
surport the expronges of private asylum. Among those fur whoso
 Navy without fortune; clerks in the pulific service or in rarious ofticen, receiving silarics dependent on their continual exertions
clergmen penseming small preferment or curacies and men of
other learned professions not posessing an independence a artist

 nnd nire sometimes reduced to eventual peoverty by the oneurrence
of insanity in the prom of a chat of insanity in the peran of a chald, a wife, n parcut, or some de
pendent relative and it is propused to provide for such permons an Asylum into which they can tee promprly receircd and in which
they may have the comforta suitulle to their habinta of life, nad all the nidrantakers and resiurcece enjoyed in existing asslums for the 1st July, 1845. By order HOWE, LEONARD \& CO., AUCTIONEFRS and
 Particular attentiongiven tuthe silife of
Satifuctury references can be obtained at John Millera, lien
retta-street. Covent-garden.


CHAPPELLS MUSICAL CIRCULATING six hooks or pieces of muric at a time in town, or cirhteen in the country. Subscribery paying $2 L$ is. A-year are entitled to four in
tomn. or twelve in the country alded to the libibrary as country. All new works of interent arto alded to the library as soun as publiwhed, and every deact
of music in supplied to subscribers. - . New Bond-atreet

\section*{Sales of muction. <br> SOUTHGATETS ROOMS <br> By Mr. HENRY SOUTHAATE. at his Rooms, ma, Floot-atreet. <br> A COLLECTION of PICTUURES of the the Property of a Gentleman, including some intereating 8peci- <br> 

On FRIDAY, July 11, and following day,
A VALUABLE COLLECTION of BOOKS,






 MR. L. A. LEWIS'S SALES FOR JULY.
TOREIGN BOOKS in Geography, Statistics, Finance Ac. collecied by a Gentimman who contributed
 tial Pallus, 1fin, extremely raie, H.A., Parthenica Sucra, 1600 , rare, Clasnics, \&c.
VAL MONDAF. July 14, and three follow ing dasa, VALU ABILF BOOKS, being the Library of two Oentlemin, decensed, Clasedeal
Prints, Miscellaneous Books, dc.





TESSRS. BARRY \& SON beg to inform the Nubility and kicntry that one of their firm constantly restita suita, he for prcients, of which they now hare a mout aplendid deaks, \&c. is the rery best that nu1 he manuffactured. Their tampo



 CALIGRAPHIC BLACK LEAD PENCII


 can be desired. of collur, delicacey of tint. aut venness of texture. they are not to the procent time, and nre infinitely superior to every other dasip-
 hy tivir being little


 A siugl, Dencil will be frwarded as a smulte upon the recelptor

 Original from
districts that yield largely to the wealth of England, by the labour which such knowledge as they profese to give should lighten and direct. The annual value of iron produced in the whole of Great Britain, is equal to eight millions sterling; and of this sum, five millions are produced in Wales alone,-an amount equal to the produce of the whole of continental Europe. Aknowledge, on the part of the workman, of the properties and accidents of the materials in which he works si important as well to economy of production as to the diminution of the perils amid which the miner pursues his laborious calling. Mr. Solomon Gibson, a brother, we believe, of Mr. Giboon, the sculptoracademician, is an active promoter of this good cause; and to his efforts and views we call the atten tion of the friends of the principality-and that of the government.

Several members of the Jewish and General Literary Institution, noticed heretofore, have submitted a plan to its committee, the object of which is to collect materials towards the history and statistics of the Jews in Great Britain, from their first appearance in the island. A sum of at least 1002. is to be subscribed, for five years,_100l. per annum to be the salary of a competent scholar, who is to devote four years exclusively to the collecting of materials, both from printed books and from the MS. records of the realm. As the former are to include the Rabbinical writings, the scholar to be elected must not only be fully conversant with the middle-age Latin and Norman-French, but also with the compound idiom known under the name of Rabbinical Hebrew. The materials thus collected are to be deposited with the Literary Institution, and to be open to the inspection and study of all persons who may wish to compete for the prize of 1001., which is to be awarded, in the sixth year, to the author of the best history of the Jews in Great Britain. Foreign scholars who may wish to compete for the prize, are to be supplied with copies of the materials free of any expense.

The third Annual Conversazione of the Institute of the Fine Arts was held, on the 28th instant, at Willis's Rooms, and very numerously attendedladies being, this year, for the first time, amongst the invited guests. The display of works of art was numerous and interesting. There were not many pictures by the old masters; but amongst those of our own modern school, we noticed an early landscape by Turner, and two landscapes by Wilkie, the contributions of Mr. Denny. A small picture by Mr. Huakisson (a new name in Art), exhibiting the fairy world of Oberon and Titania, and full of the feeling and fancy of the subject, attracted attention. Goodall exhibited a picture, the Interior of an Irish Cabin; and Mr. Harrison, a large and fine wrater-colour painting, from the 'Midsummer Night's Dream,' treated in a manner full of taste and originality. We noticed, also, a series of eight drawings, by the late Thomas Sibson, from English history - embodying not merely particular scenes, bat phases, of English life and character:-'A Deacent of the Danes upon the English Coast; - A School in the Time of Alfred'-(a drawing of bigh character, for conception and execution); ${ }^{\prime}$ A Baxon Town;' 'Saxon Hospitality;' 'The Normans' return in Triumph;' 'The Barons Hall in the Time of Chaucer;' 'Trial by Combat;' and 'Cash Payment' (a Saturday night in a factory). There were some splendid specimens of German engraving, from designs by Kaulbach, in illustration of Goethe, and unpublished. In sculpture, Mr. Foley contributed two spirited aketches in plaster, together with a reduced copy in bronze of his 'Youth at the Stream,' and Mr. Bell, a bronze copy of his 'Eagle Slayer.' The portfolios of drawings and sketches were numerous; and articles of rirtù, such as bronzes, cups, miseals, jewels of the middle ages, carvings on ivory and wood, armour, \&c., abounded, and were many of them of great rarity and beauty.

It is with regret that we announce the death of 2Ir. Andrew Picken,-the worthy son of a worthy sather, of whom many of our readers will have a pleasant recollection in the lighter walks of fiction and himself an artist of great promise, which disease long baffled, and death has at last broken ${ }^{-}$to the hope." Some years ago, Mr. Picken sought to escape from the foo who has finall conquered, anid the gofteins end enchat) (ed bre zer of that
paradise of the consumptive, Madeira; and brought thence, as our readers may remember, some of the finest and boldest sketches of its remarkable scenery. But into that charmed region his enemy followed him, in the guise of his art ; and, with the sketches, he brought home a worse thing - the gift of the exposure which had sought, and the toil which had produced, them. He has died, at the age of thirty years.

We understand that Mr. John Horsley has been elected by the Committee of the School of Design to succeed Mr. Herbert. Considering all the circumstances of Mr. Herbert's retirement, the factions in the committee and the ruptures with the pupils, we doubt if the office of drawing-master can be considered as an easy or enviable one.

We have pleasure in recording all those instances in which our own Government awards any of the honours to scientific, literary, or artistic distinction, amongst ourselves, which are held to be its right in many of the Continental nations; and this is a pleasure to which we the more readily lend ourselves, inasmuch as such notices make no very serious encroachment upon our space. We must not omit, then, to record the knighthood which has been conferred on Mr. Fellows (now Sir Charles) as a worthy pendant to the previous instance of the same dignity bestowed on Mr. (Sir Robert) Schomburgk.

The recent arrivals from America bring, as most of our readers will have seen, distressing accounts of an awful calamity which has befallen the city of Quebec, in the destruction of one-third of its extent, by conflagration. No less than 1,650 dwellings are in ashes, and 12,000 people left without food or shelter. The details are of the most painful character. So rapid was the catastrophe, that nothing could be saved but the life which fled before the fiery pursuer, and too often in vain. Men who had gained what they believed to be places of safety, distant from the burning quarter which they had left, found themselves suddenly surrounded by the flame, as if it had leaped thither, and their means of escape cut off. Every class of society has been reached by the wide-spreading calamity ; and numbers, who rose in the morning possessed of competence, saw the night fall down upon them beggars. The terrors of a coming Canadian winter are added to these horrors, and, meantime, the dread of plague, from the crowding into narrow spaces of this mass of destitution and distress. The city has done what she can to relieve her sufferers-and Montreal has helped her: but the case is, as she declares, one utterly beyond the resources of such a community, even in its best circumstances; and she makes an earnest appeal to the mother-country, for aid.
Miss Cushman's success with the London public has, it should seem, tempted others of the family to adventure for a share of the fruits of Shakspeare's island. A sister of the prosperous actress has quitted Philadelphia for England, accompanied by her mother.

We regret to learn that Philadelphia has been appointed to a share in those calamities which the Arts have recently had to sustain in the great cities of America. Our readers know that Washington and New York have each lost their theatres by fire, within a very short space of time; and on the 11th of last month, the Academy of Fine Arts, in Philadelphia, fell a victim to the same destroying agent, with a large proportion of the treasures which it contained.

A unique and highly interesting volume has been discovered, by Mr. A. Asher, of Berlin, and by him transferred to the British Museum. It consists of a series of French Farces, Rergeries, and Moralités, printed from 1542 to 1548; and even the most instructed of the bibliographers of France, England, and Germany were ignorant of the existence of about fify-eight of these curious monuments of the manners and customs of the 16th century. The Bibliotheque Royale possesses some five or six of these plays only, -the whole of which are in black letter, and printed in the singular size called, "format d'Agenda."

It was stated, last week, in the Chamber of Deputies, in allusion to the imperfect regulations existing at the Bibliotheque Royale, for the loan of its treasures, that no less than twenty thousand of its volumes are lost, and a great number
mutilated. Reference was made, too, to the manuscript of Molière, stolen from that institution in 1825, and recently offered for sale by auction, in Paris, as our readers know. This manuscript the Minister of Public Instruction has never been able to recover, by means of the tribunals, for want of any mark to prove its identity ; but, in answer to the complaint of such abuses in an establishment of so much interest, the Chamber was assured that regulations had now been adopted which rendered their future recurrence impossible.This reminds us of a painful circumstance, which has for some time been a subject of conversation in literary circles,_the formal exclusion of Mr. J. O. Halliwell from the library of the British Museum. We have hitherto refrained from all allusion to the subject; but as a statement has been put forth in one of the Sunday papers, evidently by a friend of Mr. Halliwell's, and ns the writer calls on the press to pronounce judgment, we shall not hesitate to say that the explanation there given is unsatisfactory. But on this point our readers shall judge for themselves: "About two or three years ago, Mr. Halliwell, being desirous of raising a small sum of money, submitted a portion of his library, MSS. \&c. to public auction, in London. The catalogue was printed some weeks before the sale ; and, as Mr. Halliwell and his auctioneer can prove, copies were sent to all the public libraries, and in particular one was sent by the hand of Mr. Halliwell himself to the library of the University of Cambridge. Amongst the MSS. was one of considerable antiquity, and curious as detailing some of the modes used for producing certain tints of coloured glass. The title of the MS., and the nature of its contents, were correctly set forth in the catalogue. The University of Cambridge and the Trustees of the British Museum did not make any purchases at the public sale; but the Trustees of the Museum, afterwards, and at a considerable advance, purchased the MS. we have described, and placed it in their list. There it meets the eye of some Cantab, who recognizes it as a missing MS. of his University library. The University claim it of the Trustees; and the latter refuse to part with it, on the ground that they have come honestly by it. Mr. Halliwell is, of course, appealed to as to where he bought it, and how long he had possession of it. His answer is, that he cannot tell; he has for years been in the habit of haunting old book-stalls, curiosity-shops, \&c., in all parts of town and country, and has never been in the habit of noting down the places where he makes his purchases."

ROTAL ACADEMY OF ARTS, TRAFALGAR SQUARE.
ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE.
The EXHIBITION of the ROYALACADEMY I NOW OPEN.


BRITISH INSTITUTION, PALL MALL
The Gallery with a SELEECTION of PICTURES by ANCIEART MASTERS and those of the late S1R A. CALLCOTT R.A.. and Admamon, ia; Calalugue, 10 wILLIAM BARNARD, Keeper.
HE NEW SOCIETY OF PAINTERS IN WATER COLOURS. The ELEVENTH ANNUAL EXHIBITION IS NOW OPER at


MIORAMA, REGENTS PARK.-REDUCED PRICE OF ADMITTANCE, - Now OPFEN, nRTh a new and hlghly Interesting exhibition, representing the CASTLE and TOWN of H KIDELBERG
(formery the residence of the Electors Palatine of the Rhine) ing. and the exterior $v i e w$ of the CATHEDRAL Of NOTRE DAMB
at $P$ And at Paris, as seen at Sunset and hy Mounlight, and which has been so
universally admired. Both pictures are painted by Le Chevalier Ronoux. Open from 10 till 6 . Ad
1s.; Stalls, 2s. as heretofore.

## SCIENTIFIC AND LITERARY

Royal Society_Jume 19-_R. Owen, Esq. V.P. in the chair.- On the Connexion between the Winds of the St. Lawrence and the Movements of the Ba rometer,' by W. Kelly, M.D., Surgeon R.N., attached to the Naval Surveying Party on the River St. Lawrence.-The author adduces a great number of observations, which are in opposition to the gencrally received opinion, that the mercury in the barometer has always a tendency to fall when the wind is strong. During a period of fifteen years passed in the Gulf and River St. Lawrence, he found that the barometer as frequently rises as falls under the prevalence of a strong wind; and that the winds often blew with a grenter force with a rising than with a falling barometer, He gives a circumstantial account of the progress and course of yarious gales which came
under his observation during that period, and from which he infers the existence of a steady connexion between the prevailing winds of this region and the movements of the barometer, and enters into an inquiry into the mode in which that instrument is afficted by them. The extensive valley of the St. Lawrence is bounded at its lower part, for a distance of nearly 500 miles, by ranges of hills, rising on each side to a considerable elevation. Within this space the ordinary winds follow the course of the river; and in almost every instance where they approach from windward, the barometer rises with them; and when, on the other hand, the wind approaches from leeward, the barometer not only falls before the arrival of the wind, but continues to fall until it has subsided. An appendix is subjoined, containing extracts from the tabular register of the barometer and winds at various points in the valley of the St. Lawrence, during the years 1834 and 1835 , accompanied by remarks on different points deserving notice in particular cases.
' On the Elliptic Polarization of Light by Reflexion from Metallic Surfaces,' by the Rev. Baden Powell. - In a former paper, published in the Philosophical Transactions for 1843 , the author gave an account of the observations he had made on the phenomena of elliptic polarization by reflexion from certain metallic surfaces, but with reference only to one class of comparative results. He has since pursued the inquiry into other relations besides those at first contemplated; and the present paper is devoted to the details of these new observations, obtained by varying the inclination of the incident rays and the position of the plane of analyzation, and by employing different metals as the reflecting surfaces. By the application of the undulatory theory of light to the circumstances of the experiments and the resulting phenomena, the law of metallic retardation is made the subject of analytic investigation. A polariscope of peculiar construction, of which a description is given at the conclusion of the paper, was employed in the experiments; and tables are subjoined of the numerical results of the observations.

Geographical Society.-June 23._Lord Col chester, President, in the chair. - Six new members were elected. The paper rcad was'Considerations against the supposed Existence of agreat Seain the Interior of Australia,' by E. J. Eyre, Esq.-"An opinion," says Mr. Eyre, "very generally prevails, that the continent of Australia is, comparatively speaking, little more than a narrow crust or barrier intervening between an outer and an inner sea. This opinion originated with Capt. Flinders, and is still entertained by Capt. Sturt, Mr. Windsor Earl and others. Mr. Eyie admits that the non-cxistence, at least as far as we know, of any large river, with the exception of the Murray, discharging itself into the sea, on the eastern, western, or southern coasts, to the southward of a line drawn from Moreton Bay to Shark's Bay, is the strongest argument in favour of the theory of an inland sea; nevertheless other and weighty considerations militate against this idea; and Mr. Eyre has come to the conclusion that the interior of New Holland will be found generally to be of a very low level, to consist of arid sands alternating with many basins of dried up salt lakes or such as are covered only by shallow salt water or mud, as in the case of Lake Torrens; that there may be many detached and even high ranges, as the Gawler Range, interspersed among the arid wastes, and that in the midst of these ranges there may be rich and fertile spots. As far as Mr. Eyre's own personal observation goes, it supports the suggestion thrown out hy Capt. Sturt, that Australia was formerly an archipelago of islands, and that their emergence from the sea is a comparative modern event. Be this as it may, Mr. Eyre founds his opinion against the existence of an inland sea, upon the following three circumstances: first, the hot winds, which in South Australia blow constantly from the north, or centre of the continent, and which he compares to the fiery and withering blasts from a heated furnace, and the little prokability that such vinds have been wafted over a large expanse of water; secondly, the accounts of the natives inhabiting the outskirts of the interior, who have no knowledge of any large body of water inland, either fresh or salt; thirdly, the comidence obser able in the
physicab appearance, ustor 10 , hat at and pur-
suits of the aborigines at opposite points of the continent, while no such coincidence exists along the intervening line of coast, connecting these points. The developement of all the facts contained under three heads, and the mention of others, such as the arrival of parrots from the interior, \&c., constituted the mass of Mr. Eyre's paper; but as mere abstracts would break the chain of reasoning adopted by the author, we must content ourselves with saying that, however plausible that reasoning may be, and it certainly has grcat weight, nothing short of an actual examination of the interior can satisfy us as to the nature of that peculiar country-It was stated at the meeting that Lieut. Ruxton had arrived safely and in good health at Walwich Bay; that he had hired Ilottentots and cattle, and was about to proceed on his exploration to the interior, intending to return by the Cape.

The President announced that the next meeting would be held on the 10th of November.

Asiatic Society_-June 21._Sir G. T. Staunton, Bart., M.P., in the chair.-R. Alcock, Esq., was elected a Corresponding Member.
Mr. A. Bettington, of the Bombay Civil Service, read a paper on certain fossils procured by himself on the Island of Perim, in the Gulf of Cambay; more particularly on a gigantic ruminant, having some affinities to the Sivatherium and the Giratfe. After adverting to former notices of fossils obtained on this island, the writer described its situation in the midst of the gulf stream of Cambay, which separates it from the main land, and deposits large quantities of alluvium brought down by the rivers emptying themselves into it. These rivers, in the present day, in the freshes, transport into the Gulf large trees, and the bodies of oxen, deer, bears, and other animals; and in the great floods of past ages are considered to have brought down and deposited, as now discovered, the remains of ruminants and pachydermata, some extinct and unheard of, others having, in the present day, their living co-geners in the Indian rivers. The bed from which the writer obtained the fossil specimens exhibited is below the usual water mark, and inaccessible except at the ebb of spring tides. A portion only of those obtained were brought to England, the remainder were left in India. The most remarkable of those in this country was a large skull, which is now, by competent judges, pronounced to be the first specimen of a new genus. The mass of conglomerate which contained it weighed about 170 lb ., and the separation of the skull from near 100 lb . of matrix occupied Mr. Bettington many weeks. The skull, on the whole, is well preserved, though a portion has suffered from the action of water. The lines of teeth on the two sides of the palate are unconformable; and it has been conjectured that the head must, at this part, have suffered from violence, but there is no appearance of fracture. For the purposes of comparison, Mr. Bettington had made a close measurement of every part of the Perim fossil, of the sivatherium, and of the skull of the adult giraffe in the British Museum; from all which it appeared that the Perim fossil is the smaller. The teeth are similar in number and character to those of the sivatherium, and are romewhat smaller, as the comparative size of the heads would lead us to expect. A marked distinction between the two is found in the excess in width of the cranium at the vertex, being in the sivatherium 22 inches, and in the Perim fossil little more than 11 inches, in which character the latter approaches nearer to the giraffe. But the greatest point of difference is in the form and position of the horns. In the sivatherium the horns bear somewhat the same relation to each other as in the four-horned antelope; whereas, in the fossil under consideration, the anterior horns rise from a confluent base measuring twentyfive inches; the horns above the line of division measuring eighteen inches. This formation the writer considers to be without precedent in the animal kinglom, fossil or recent. The general character, cancellar structure, and extensive developement of the protuherance at the lower edge of the transverse ridge of the occiput, compel the conviction that it was a posterior horn, "reflected" as in the common Indian buffalo, and must have produced an appearance truly monstrous. The whole formation indicates great force and power. Among the other fossils, there
were some identical with those of the Sevalichills, and
others peculiar, as vet, to Perim. Among the latter was a new crocodilean. There were specimens of three species of mastodon, gariols, and rhineceros; and the heads, horns, and teeth of stags, antelopes, oxen, \&c. The writer concluded with the observation that there was still a rich field of mesearch remaining at this deposit, and that he had sent to India, not only for some of the specimens before referred to, but was also making arrangements for prosecuting further research.-Dr. Mantell, who was present by invitation, remarked that the specimene afforded additional confirmation of the fact, first pointed out by Captain Cautley and Dr. Falconer, that in the tertiary formations of India were collocated the remains of several species of reptiles and mammalia, with those of extinct species and genera bolonging to the most ancient European deposits of the same geological group (the eocene); as, for example, the tecth and bones of the chiropotamus, and other pachyderms of the Paris Basin, with those of the existing gariol of India. Dr. Mantell then offered some observations on the analogy which the specimens from Perim, as well as those from A ra, and from the Sevalic hills, presented in their mineralogical condition, and the mechanical action to which they had been subjected, with those more ancient fossil bones and teeth that abound in the Wealden deposits of the southeast of England; particularly with those obtained ftom the conglomerate and grits of Tilgate Forest. The Indian and the British fossils are alike mineralized by iron, and have an investment of indurated, ferruginous sand, interspersed with quartz, pebbles, and rolled fragments of other rocks; and the bones are, for the most part, mutilated, and much waterworn, proving that previously to their mineralization they had been exposed to abrasion from streams and rivers, and were transported from a great distance by currents. Dr. Mantell dwelt on the discrepancy between the Faunas of the two epochs, although that of the Wealden was as decidedly of a tropical character as that of the tertiary strata of India; but in the latter large mammalia prevailed, while in the far more ancient secondary formation of England mammalia were absent, and the place of the gigantic ruminants and pachyderms was occupied by herbivorous reptiles of appalling magnitude.

The Society adjourned till November.
Institute of British Architects.-June 23 W. Tite, V.P., in the chair. J. Dobson, of New-castle-upon-Tyne, was elected a Fellow. A paper was read by C. Parker, 'On the Proportions of the Beams used by Ancient and Modern Architects.' The paper commenced by comparing the strength of the square and the strongest beam that could be cut out of a round tree, and contrasting the propertions with the usual forms which ancient and modern architects adopt in beams, the former making the breadth, and the latter the depth, the element of strength. It then traced the views that different nations have held and practised in their constructive operations. It stated that the Egyptians preferred the square form of bearing beam, which proportion was used in Solomon's palace, and that the Greeks and Romans used the rectangle placed horizontally. It then remarked that in all the timber buildings erected before and after the Norman conquest, the breadth of a beam was placed to resist an opposing force, and so continued to be used in the rebuilding of London after the fire in 1666. Prior to this date, the system of double framing was introduced on the Continent, and changing the proportion of timbers, made the depth preferred to the breadth, which view is now thought correct. The diversity of opinions thus shown, induced the following experiments, which were made with iron, from the difficulty of obtaining specimens in wood of equal strength. The object was to ascertain the effect of increasing two, three, or more times the breadth of a beam-also of increasing the like number of times the depth of a beam, and the comparative strength of two separate and one compact beam of equal weights. The result showed that every addition made to the breadth, was attended by a decrease of the bearing power in the ratio of $\frac{1}{4}$ to $\frac{2}{7}$ as the case might be, whilst a contrary effect attended the enlargement of the depth; also that two separate beams were much weaker than: one compact beam.

A paper was likewise read descriptive of 'A Series

# THE ATHEN $\neq \mathrm{AM}$ 

## 

## No. 925.

LONDON, SATURDAY, JULY 19, 1845.




$\mathbf{H}^{\wedge}$
ANWELL COLLEGIATE SCHOOL, Mid-dleeor.-The VACATION will CLOSE on TIIURSDAY. INISHING CLASSES for YOUNG LADIES at a CoLLEGIATE SCIIOOI, where Claseses are formed in

A LADY, residing in the immediate and most bealthy locelity of HYPF PiRk. BECPIVEG NELECT many yearc experience in the important dutice involved in such a neapocathility. and Prufestirs of the first clase nind most dintin-
 owhom the 1, ady hegs to refer.
DUPERIOR EDUCATION for YOUNG Hyde Padirs in a select Eatahlighment, a whort distance west of

 ap inelusive from to to so (iuineas per annum.
Proppectuges, references, and further particulars, may be obained of Mrs Dean, 10 , Red Lion-miunre.
TDUCATION.-AT HOFW YL-HOCSE, D Btamford-hill, Middledex, YOUNG GENTLFM EN are
EDUCATED on plans founded on the principlew so suiucensfully applied by Pestaloxzi and De Fellenberk. The must ansiduous cention the bestowed on the culture of the religivus and mural geamali improveraent of the health and phyicical cupatilitifise The

Orem languages, the mnthematics, experimental philosophy
 A morpectus may be obtained at $M$
; or at the cotablishment.
CDUCATION.-FRANCE and GERMANY. many years Frincipal of a ACANCIES. His Puper important
Franee and
and may
trenc

$\mathrm{M}^{\text {To }}$TO MABTERS OF COLLEGRS, SCHOOLS, ETC. BTC. ESSRS. LONGMAN AND CO.S ANNUAL
 and Country, or will he frrwarded tre of pestare, to any person
applyink for it to M
${ }^{\prime}{ }^{\prime} \mathrm{HE} \mathrm{P}$ P BLISHINGSSEASON. November and Docember are considered the best months for
thi produotion of Pew Pulthications No time phould, the reefore
bel be lot by Authorn wiwhing to avail themedres of the approaching

 printed and, embellished, and contains a list of printing, paper A Neer Edition of the AUTHOR'8 HAND-BOOK, price 1e. © Cl . HNCA ÚSTIC DECORATIONS FOR ROOMS
 Strand, near Trafalgar-square. The same are done on paper for the country, and mas be put up by country workmen.
TOWE, LEONARD \& CO., Auctioneers and Particular nattentiongiven to the BALR of UNITED STATESNutivfactory refereuces can be obtained at John Miller's, Hen rietta-street, Covent-garden
J. A. GODDARD, Foreign and Gengral

 with which $\mathbf{J}$. A. . G. may por cntrusted, will be excected with the
 dente. and
old Jewry.
CIRCULAR NOTES.-UNION BANK or London CO The Directors give Notice that they isme CIRCULAR

 A SYLUM for the INSANE of the MIDDLE At CLABSEES of Rocilet Y.-Ata PYBLIC MEETING, held at Freemmons Lord ABIILEY, M. P. in the Chair,
 having be
mousty

1. Moved by Samuel Gurney. Eaq. Reconded by W. Tite. Faq. bourhood of 1 ondon for the reception and curce of ins the peigh belonging to the middile claneme of opocietr, thoxe circumstanices are
too limited to meet the unavoidable expensc of private nasluma. 2 Morod by Dr. Bouth wood Smith; meonded by R. irninger, Eaq. That patilenti in every stape. firm, and eomplicition of the dis.
order should be manisable to much an asylum, when recommended by a governor, aubject to tho decision of the Cominittee of Management.
2. Moved by Viscount Ebrington, M.P.; reconded by J. Hanoock That a Provisional Committee, conaiting of the following per mons, with power to do to their number. be appointod to carry this object into offect: and that an appeal be made to the nobility
olergy, and public in Thoman Hervan. M.D
Benjamin Bond Mabbell, Esq
Frederic Cohb, M.D.
John Conilly, M.
William Dim
William Iimes. Es,



T. Southwod Amith. M.D.

Arthur stilliwell. isag.
William Thornborriw, Eaq.
Wolliam Tite. Eng P. N.
Joseph Toubec, Enq. F.K.
Rocert Thilis. M.D.
Yorbe Winslow, M.D.
4. Mored by John Wilks, Ess.; seconded liy Dr. Winklow. Gurney, Eaq. be appointed Trustecs of the Anylum.
5. Noved by Samuel \&olls. Een. : meonded by Dr. Beran,
 appointed, and the interest applied to the relich of a certain number
 or more fu the Asylum, and placed on the list of patients rect
for a lower paynent, or cren whoot any payment whatercer
a Moved by Dr. Conolly; seconded by Dr. We closter.
Earl Spencer and Lord Ashley for their kind patronage of the pro Enared Aenclum and to Lord Ashley for having riren his raluable aspiutance on the present measion, and for his renlous, benevolent.
and efficient exertions on all pecasions affectiug the protection and andfure of those aflicted with insanity.

ABHLEY, Chairman.
Contributions are received by any of the Provisional Committeo atroet : Mesta Coutta \& Co. © 59 , Strand ; Sir John Lubbock, Bart



 A MODERN LIBRARY COMPANION.
KNIGET'S WERELY VOLDME. PRICE ORE BHILLITRE. RACINE, and the FRENCH CLASSICAL Jondon : Charles Kinght © Co. BOR, Ludgato-atroent
TNGLAND This INy. in Aro. price ifo cloth, 1815 AND or, a
 and hurh mad Londail

## $\mathbf{L}^{\text {ETTERS }}$ NF O A


A charming book."-Athenexms In livalinems of observation, readiness of idea, and spirited ace of expression, the authoress is unsurpeaed by any ledy writer we Henry Colburn, Publisher, 13, Great Marlborough-etreet. NEW WORK BY THE AUTHOR OE "FHEDERICE TRE


$\mathrm{H}^{1}$The very book that Englishmen wiant "no Britenuia
Written with vigour, impartiality and accuracy. It will fortas a raluable addition to our historical it terature-the more raluats found, except in ous and not ensily accessible volumes 'John Ay llt.
Ilenry Colburn, Publisher, 13, Great Mariborough-ntreet.

THE ENGLISH REEVIEW; or, QUARTERLT JOURNAL Of ECCLEBIABTICAL ADd GENERAL II. TERATURE.
Contents:-1. Marlborough Despatches: Hill's Correppondoneo-
2 Moderu German Liturgien-
 gence. Rivingtons, Bt. Paul's Churchyard, and Waterioo-plece.

## Just published, in post 8vo. with Engraringe, price 8e. ed hame-


 "If there be ond quality in which, more hanem another, Mive pane burv exoels, it is in that of heart-appealing pacthom"-Naval and THE EDINBURGH TALES: Conducted by "This work, which wo notiood on ite firat appearance in parta, hee
 Mitford, and others, heaidee the Editor herrelf It mifl foring
capital volume for light reading. Worth half a dosen common is tions, and at about halr the prioe of one" -syecefor.
Chapman \& Hall, London ; W. Tajk, Edinbunth.
MERLET'S (Professor in University Colleze) - Traducteur; Selections from the beit


Tableau Litteraire de la France; a sequel to the 'Traductour. 1sma 6a boand Dictionary of Difficulties. New edition,

London: Taylor \& Walton, Upper Gowerstreet.
BISHOP BUTLER'S GROGRAPHICAL WORIX
Just published, a New Edition, re-engraved, with corrections green
the Oorornment Burveys, and the mont recint moarcei of infoent
 Thousand consing of 23 coloured Maps. With Index of nearis To Bhousand Places By of Lichfied, and formerly
Behool. Edited by the Author's Bon.

A SKETCH By the game Author, $\begin{gathered}\text { git } \\ \text { of }\end{gathered}$ GFOORA PIIT, for the use of Schnols $A$ New Edition, roviend be his Bon. 8ra. ga. boards; los bound.
AN ABRIDGMENT of the above, in the form of Question and Answer, for the use of Begimners By Mast AN AILAS of ANTIENT GEOGRAPET consiating of 92 Mape, with Index of sbout 4000 Names. $8 v a$ hair THE ANTIENT and MODERN ATLAA: OUTIMNE MODFRN and ANTIENT GEO.

the painter himself would now condemn as no true cublimity. 'Le Jeu aux Quilles,' or 'Nine Pina,' by Du Sart, 151 guineas ; a close imitation of Ostade. 'The Polish Ambassador,' by Rembrandt, 106 guineas ; 'Rembrandt's Father,' by ditto, 531 guineas 'Rembrandt's Cook,' by ditto, 110 guineas. "This is the picture recorded by De Piles and others to have been so delusive, that when placed in the window by Rembrandt, the passengers thought it the cook herself." Auction catalogues, we again warn our readers, are not distinguished for veraciousness and the account just quoted cannot be reckoned among their fer veracities ; but even were it exact it would prove the picture a bad one-otherwise a waxen fac-simile is the best portrnit art can produce; and Madame Tussaud is a far better artist than Rembrandt! 'Le petit Boudeur,' or ' Pouting Boy,' by Grewze, 182 guineas; 'Signora de Amicis' by ditto, 280 guineas; to our taste very disagreeable specimens of a style seldom attractive. The Boy with a Bird's Nest;' hy Murillo ; almost as good as if by him indeed; the delighted expression of a little bird-fancier, who has his hat full of nestlings, which he counts to hinself while he fingers them in their strange crib, and hugs himself at their number, equals that of the Dulwich or any other little ragged epicure Murillo ever painted; but the execution and colouring come short of his; 88 guineass 'A Landscape,' by Vander Meulen, one of his state pictures, 135 guineas. Two impossible Vandycks, a 'Holy Family,' 126, a ' Dedalus and Icarus,' 260 guineas, close our critical synopsis.

Hogarth.-These few words addressed to you are relative to a notice [antc, p. $6660-67]$ of a sale of historical pictures at Christie \& Manson's, whercin mention is made of a painting by Hogarth, representing a 'Westminster Election;' and hat among the characters were those of "Fox, arm-in-arm with Housc, the hotel-keeper." This announcement surprised me, never having seen or heard of such a subject by that glorious painter. A few minutes reflection convinced me, that if they were the effigies of Mr. Fox and Honsc (ehapainting could be by Hogarth. And now let us refer to dates,- those wholesome referees. Hogarth died October 25 1764; Fox was born January 24, 1749, n.s. First entered Parliament, as member for Midhurst, in 1768 . Sam House publican and republican, as he designated hiinself, landlord of the Fox public house, in Wardour Street, Soho, although he commenced politician in 1763 , did not render himself conopicuous at any Westminster election until the memorahle contest between the Lord Lincoln and Mr. Fox in 1780. Thus, by compariug the above specifications of time, you will perceive the painting could not have been by Hogarth

## Hanover Park, Peekham, July 7, 1845.

In addition to the equestrian figures of the two chicf heroes of Waterloo, which the Duke of Wellington has ordered to be executed, in silver, after the designs of Count D'Orsay [ante, p. 637], his Grace has given a further proof of his opinion as to the Count's success in seizing his characteristic likeness, by sitting to the latter for his portrait, as a companion to that of Napoleon by Delaroche. We may add to this bit of cominemorative Art Gossip, that the citizens of Exeter talk of erecting a monument to the memory of their late distinguished representative, Sir William Follett :- that the Queen has subscribed two hundred guineas to the fund for the erection of a monument to the late General Sir William Nott: - and that Gibson's statue of Mr. Huakiseon, for the town of Liverpool, is casting in bronze, at the Royal Foundry of Munich.

A few foreign paragraphs of the same kind will interest our readers. The colossal bust, in white marble, of himself, left by the late Augustus William Schlegel to the University of Bonn-and which bust is the work of the French sculptor David-has been placed in the great hall of that establishment.-In France, a bronze statue of Le Sueur the composer, is about to be erected in his native town of Abbeville; and a committee, including some of the first musical name of Europe, has undertaken the management of the praject-From Havre, it is stated that a vessel has arrived in that port, having on board three hundred casers of antique fragments, from the province of Constantina, in Algeria. They are to be transferred to the Lourre; in which place a room will be devoted exclusively to ohjects of art and antiquity brought from that colony.-Last month, was inaugurated, at Christiania, the monument by the Swedish sculptor Mikkelsen, ordered by ${ }^{t}$ e crill of the late King Charles John, torbecructed, a his cost,
filled, for twenty-six years, the office of GovernorGeneral of Norway, and had, by a long life devoted to their service, won from his countrymen the title of the Benefactor of his Country. The monument is a colossal bust, in white marble, of the Count, on a tall column of red granite, bearing, in letters of gold, the following inscription:-_"Charles John, King of Sweden and Norway, to his friend the Governor-General, Count de Wedel-Jarlsberg -1845."-From the Norwegian capital, we learn, also, that an association of savams, artista, and literary men, has been formed there, under the title of "Society for the Preservation of the Ancient Monuments of Norway," with the object of exploring all parts of the kingdom for such objects of antiquity as are worthy of record, either in a historical or artistic point of view, and representing the same by lithographed drawings and written deacriptions-To this paragraph we may add an account, which we find in the Courrier d'Athenes, of a singular outrage committed upon the monuments of Grcece. The wall of the Acropolis has been scaled by robbers; who succeeded in detaching a number of bas-relicfs, but had carried offonly two-one ascribed to Phidias, and the other belonging to the Roman period. The first of these is said to have been recovered, and the police are on the trace of the other. The Greek paper even insinuates that the authorities know who are the robbers, but screen the names from public indignation.

In addition to the two Prussian Academies of the Fine Arts already existing, the one at Berlin and the other at Durscldorf, a third is about to be established at Köuigsherg, for the eastern provinces. A School of Painting has been already organized; at the head of which the historical painter Rosenfeld has been placed as director and professor of painting. The School of Sculpture is to follow.The King of Prussia has appointed M. Sulpice de Boisserée, the learned archoologist of Munich (possessor, it is eaid, in common with his brothers Melchior and John, of the most complete collection of pictures of the German school existing), to the chair of the History of the Fine Arts, in Bonn, vacant by the death of the illustrious Schlegel.-The Academy of the Fine Arts at Amsterdam has elected MM. Ingres, Horace Vernet, Paul Delaroche, and Robert Fleury, into the number of its members.

## MUSIC AND THE DRAMA

Princess's.-Last Tuceday was the concluding night of Miss Cushman's engngement at this theatre for the present season. 'The Stranger' was the play chosen for the occasion. The part of Mrs. Haller is no favourite with us, nevertheless as the actress's most successful assumption, it was perhaps wisely chosen. In other characters, Miss Cushman had shown great physical energy and force of passion : in this, she exhibited a quiet power and a tender pathos which has repeatedly commanded the applause of numerous audiences, and uniformly penetrated the "sacred fount of sympathetic tears." In concluding our notices of this lady, we have only to add, that for her success she has been little indebted to the management. The general inefficiency of the mise cn scene, and of the histrionic talent of her coadjutors, has been marked and unprecedented in modern theatrical experience. So far therefore the new actress has stood alone: and it is much, that she has contrived to get through, not only with safety but honour, an ordcal more than usually perilous, for more, we believe, than eighty nights. Since her final appearances were announced, she has attracted crowded housee, and has reason, we think, to be satisfied with the enthusiasm of the audience on the evening of her farewell.

Lyceum, A new farce in one act, entitled 'An Object of Interest,' was produced last Monday. It presents an old subject with a somewhat new face. The heroine, Fanny Gribbles (Mrs. Keeley), induIges a romantic passion for becoming indeed the heroine of some domestic drama, such as Margaret Catchpole, Susan Hopley, or the 'Maid and the Magpie;' which, according to stage-usage in such cases, is forthwith gratified. Her mistress luckily has left a ring upon the mantel-piece ; this our would-be-martyr places on her own proper finger, and then pretends to her lover Barney O'Dwyer (Mr. Wigan), that it is a gift from another adminer; be in jealousy flings it
out of the window, and it is picked up by a Mr. Marmaduke Primrose (Mr. Emery). No sooner is Fanny accused by her mistress of the theft, than she perceives that she has placed herself in the position she desired, and therefore determines to favour the mystery, while she asserts her innocence. As the finder of the jewel is a guest of the family, the denouement would have been speedily brought about, but for circumstances which are too extravagant for detail. This part of the piece was especially tiresome, but as all ended happily, the audience were pleased. Its success depended on the acting of Mrs. Keeley and Mr. Wigan.

Musical and Dramatic Gossip.-The musical news of the week may be told in a very few words: Concerts have been given by Madame Eugmie Garcia and Sig. Mecatti :-_rehearsals held or announced for the W orcester and Norwich Festivals. Herr Pischek is gone-and Miss Sara Flower going for that course of two years' study in Italy, which too often produces no results; the reason of said unfruitfulness lying in the receipt being tried too late. Meanwhile, a benutiful voice has been heard at the Princess's Theatre, in 'The Syren,' belonging to a Miss Georgiana Smythson.-We were told of another of rare sweetness, the property of a Miss Catherine Hayes, a young Irish lady who has been singing with an Italian opera company at Marseilles; and acting, too, with great success. The local journals speak of her in the highest terms.

After the litigation of half a century, the long vexed proprietorship of our Italian Opera House is decided, and the property, it is said, was on Saturday fairly taken possession of by the present lessee, Mr. Lumley. The new pas de quatre, by Mdlles. Taglioni, Cerito, Carlotta Grisi, and Grahn, was produced by way of house-warming. 'Anna Bolena' has been given since our last notice-with (for those who prefer Moriani to Mario) the strongest possible cast:'Cosi fan tutte' was performed on Thursday, with Mdes. Castellan, Borio, and Rossi-Caccia We hope to have another opportunity of speaking of this revival; which a wise contemporary, we observe, forgetting that the opera has been played some halfdozen times in the last ten years, treats condescendingly as a piece of fossil music.

The site for the Weber monument, to be erected in Dresden, has been selected, by the King of Saxony, in front of the Theatre Royal of that city. The Committee have decided that the monument in question shall be the counterpart of that about to be erected to the memory of Beethoven, - that is, that it shall consist of a colossal statue, in bronze, of the illustrious deceased, on a quadrangular pedestal enriched with bas reliefs on the four sides. The cost $\boldsymbol{O}$ the work is more than covered by the performances given in its behalf at the several theatres of Dresden, Berlin, Munich, Vienna and Hamburg. -The statue of Beethoven, modelled by the Dresden sculptor Hahnel, for the town of Bonn, has just been cast in bronze, at Nuremberg. At six in the morning of the day appointed for its departure to its destination, a grand concert was given, gratuitously, to the town by a band of two hundred performers, all dilettanti. The statue was hung with garlands of flowers, and crowned with a laurel wreath; and around it were ranged the four bas-reliefs, in bronze, for the pedestal. The music performed was Beethoven's own, with a single exception - a hymn written for the occasion by Dr. Meyer, and composed by the Baron Poissl. At six in the evening, the monument set out for Bonn, drawn by twenty-four horses, and escorted as far as Fohlertz, a distance of upwards of twelve English miles, by two hundred dilettanti, on horseback, singing their national songe, and performing triumphal music on wind instru-ments.-The King of Bavaria, being in the town of Aschaffenburg, has received a deputation from the singers whose grand festival meeting is to take place at Wurzburg, on the 4th, 5th and 6th of August,soliciting his presence. His Majesty accepted their invitation. A body of 1,200 singers and 600 instrumentalists will take part in these performances.

A line must record the close of the season of French Plays. We hope it has been as profitable to the manager aeseciafactory to the subscribers; whose last trent has been the "woll managed mirth" of M. Aral. There are fow caleresis for any pablic, who
keep their faith so strictly, and with such avoidance of all questionable means by which the reputation of a theatre is made (means, in the end, sure to fail!) as Mr. Mitchell. His pretty little play-house, moreover, can hardly be kept open season after season, without good done to our actors-who may learn there, that what "Boz"calls "the charnel-house tone" is not indispensable to pathos;-and that comedy may be insinuated into the boxes, poked upward to the gallery, and flung merrily at the pit without grimace or indecency. The morality of French plays, great and small, is another question.
Mr. Sheridan Knowles, we believe, has returned from his sojourn in Madeira; with a new comedy in his portmanteau.

## MISCELLLANEA

Paris Academy of Sciences.-June 30.-A report, by M. Prevost, 'On the Fossil Remains of Animals in the Garonne as connected with Geology,' was presented. M. Prevost says, the entire space described by the Pyrences, the Montagne Noire, the Quercy, the central plateau of Auvergne, and the Limousin, and Upper Poitou, which forms a sort of vast gulf, open towards the ocean between Nantes and Bayonne, appears to have been literally crammed with the carcases of animals terrestrial and aquatic, and of all kinds, including the rhinoceros. All these animals, the remains of which are but rarely seen at the surface of the soil, and lie in solid beds of several mètres thick, were different from the species now existing, and they were moreover different from the animals, not less numerous and varied, which, at an evidently later period, left their remains nearer the surface, such as the elephant, the hippopotamus, the hyena, the bear, \&c., and which remains are now to be found towards the surface in many parts of Europe, particularly in Russia and Siberia. The latter, by their relative geological position and their character, seem to be placed between the most remote generations and the existing species.-M. Bory de SaintVincent called attention to his rescarches in Algeria as to the different races of the people of that country. He states that he finds no essential difference be tween the Kabyle and the Moor, but that there is a great difference in the facial line of the Bedouin. The Ethiopian type is a distinct one, but the three races have been much mixed, particularly towards the coast.

Portfolios.-‘ Harris's Peridoneus,' with moveable strings conveniently adapted for the reception and protection of the weekly numbers of the Athenaum, now made to order by Mr. Kennett, may be recommended to our readers as both elegant and useful.

Curious if True.-The following is literally translated from Le Politique Belge. The Commissioner Lau (Law?), member of the Court of Insolvent Debtors, has just finished his Report on the debts of Father Mathew, the temperance apostle, contracted in 1842. The debts recognized amount to 13,0001 . sterling, upon which a dividend of 4 s .9 d . is about to be paid. The declared debts amounted to $27,000 l$. sterling. The bankruptcy of Father Mathew arise from the cost of hiring Covent Garden Theatre !

Archaology.-It would seem that the opening of the Hippodrome in Paris, and the antique character of the performances there enacted, have given to the recently elected Mayor of Arles, the Marquis de Grille, a new idea for the celebration of his installation. An audience of ten thousand persons assembled, on the 28th ult., by his invitation, in the ancient Roman Amphitheatre of that city, to witness a succession of bull fights. The appearance of the old Coliseum, with its strongly-marked populationthe picturesque costume, Phrygian head-dress, and Greek, Roman, or Saracen heads of the Arlesian women-is described by the provincial press as presenting a picture of peculiar interest in an artistic point of view : and this experiment having dispelled some apprehensions that were entertained as to the solidity of the ancient monument, it is supposed that the future festivals of the city will occasionally revive for its modern population this striking picture of its long-past.-From Nantes, we learn that the Baron de la Pylaie has caused the interior of the old Celtic Temple of Lanleff to be cleared of the accumuLated rubbish, which, heaped in miny places above the Dasesizof the olun ns sel arat ng the arcades,
completely masked the former Ihis exhumation
has brought to light a variety of ornaments, which will assist the archæologist, it is said, in arriving with more certainty at the determination of the date of the building; and corrected some of the written misstatements which have found their way into learned works that have attempted its description. M. de la Pylaie remained to make drawings of the general aspects, and all the sculptural details, of this still enigmatical temple.

The Black Durarf.-In the course of the last fortnight a new object of interest has been added to the already attractive scenery of the Tweed-a monument marking the hitherto undistinguishable grave of David Ritchie, the prototype of the 'Black Dwarf,' in the churchyard of Manor. The monument, which is a neatly-executed stone, has been erected at the cost of Messrs. Chambers, of Edinburgh, in consideration, we presume, of their having in early life been acquainted with Davie a few years after he was visited by Scott, as well as perhaps from a laudable desire to track the footsteps of genius. The stone bears the following brief inscription:-"In memory of David Ritchie, the original of the ' Black Dwarf Died 1811 ; erected by W. \& R. Chambers, 1845." -Scotch Paper.
fipteenth meeting of tile britisil associa
TION FOR THE ADVANCEMENT OF SCIENCE.
[From our ouen Correspondents.]
tuesday.
section A.-mathematical and physical bCIENCE.
Several of the papers read this day were purely mathematical, and would be unintelligible to the general public. Wé shall only, therefore, give their titles.

On Imaginary Zeros, and the Theory of Conjugate Points,' by Prof. Young.
Sir J. Herschel exhibited a model of the globe of the moon in relief, expressing the forms and elevations of its mountains as seen in a good telescope. This beautiful and exquisite work he stated to be the performance of a Hanoverian lady, Madame Witte; modelled by her from actual observation through an excellent Fraunhofer telescope, in a small observatory at the top of her own dwelling-house; the selenographical positions and general contours of the principal craters and other leading features being first laid down on the smooth surface from Messrs. Beer and Maedler's micrometrical measures and charts. The diameter of the model is 12 inches $8 \frac{1}{2}$ lines ( $R$ heinland mensure), or one $10,000,000$ th part of the moon's actual diameter. The scale of heights is, however, necessarily enlarged to double this amount, as otherwise the relief would be too low for distinctness. The material is a composition of mastic and wax, and the whole is worked out in such perfection of detail as to represent every visible crater and mountain peak - nar, even the minuter lines of elevation which streal the so-called seas, \&c. in their true forms and conventional proportions. In consequence, when properly illuminated, and placed at 30 or 40 feet distance, and viewed through a good telescope, the artificial is scarcely distinguishable from the real moon. The delicacy and precision of the work can only be appreciated by a microscopic examination. In fact, the whole model is stated by Madame Witte to have been executed with the aid of magnifying glasses. Sir J. Herschel accompanied his explanation of this model with several remarks on the physical constitution of the moon in respect of climate, atmosphere, moisture, \&c., and compared its surface with the chart of part of Mount Etna, lent him for that purpose by Baron von Waltershausen, and with a drawing of his own of one of the principal craters as seen in his 20 -feet reflector-placing the volcanic character of the ring mountains beyond all doubt. By the aid of a large chart by Messrs. Beer and Maedler, several of these, such as Aristarchus, Tycho, Kepler, Copernicus, \&c. were pointed out, and their peculiarities describedtheir places on the model being fixed by the aid of brass circles, representing the moon's equator and meridians. This work, it is understood, will be submitted to the inspection of the Astronomical Society, on the resumption of their meetings in November. Speaking of the climate of the moon, Sir J. Herschel considered as probable the attainment of a very high
temperature (far above that of boiling water) by its surface, after exposure to unmitigated and continual sunshine during nearly a whole fortnight. The moon, therefore, when at the full, and for a few days after, must be, in some small degree, a source of heat to the earth; but this heat, being of the nature rather of culinary than of solar heat (as emanating from a body below the temperature of ignition), will never reach the earth's surface, being arrested and absorbed in the upper strata of an atmosphere where its whole effect will necessarily be expended in the conversion of visible cloud into transparent vapour, The phenomenon of the rapid dissipation of cloud (in moderate weather) soon after the appearance of the full moon (or of a moon so nearly full as to appear round to the unassisted eye), which he stated himself to have observed on so many occasions as to be fully convinced of the reality of a strong tendency in that direction, seemed to him explicable only on this principle. On the conclusion of Sir J. Herschel's explanation, Baron von Waltershausen entered into firther particulars of the nature of the volcanic phenomena on the surface of Etna, as represented in the elaborate chart above alluded to, of the environs of Nicolosi, and pointed out many particulars of resemblance to the lunar volcanoes.
'On Algebraic Equivalence,' by Prof. Jarbett.
'On Triplets,' by Prof. Groves.
' On the Equations of Laplace's Function,' by Mr. G. Boole.
'Journal of the Electro-Meteorological Observations at Kew,' by Mr. F. Ronalds.-In the abstract read, Mr. Ronalds confined himself almost exclusively to an enumeration of the different heads of observation, and particulars of the apparatus employed.
'On the Comet of 1843,' by M. de Boguslawski.
' On the Rotation of Minute Crystals in the Cavities of Topaz,' by Sir D. Brewster.
'On the Condition of Topaz subsequent to the formation of certain Classes of Cavities within it,' by Sir D. Brewster.

- Account of Meteorological Observations made at Christiana during 1844,' by Dr. Lee.-The tables now submitted were in continuation of those made in 1843, and submitted to the Association at York.
' On the Rings which surround the Image of a Star formed by the Object-glass of a Telescope,' by the Rev. S. Earnshaw. The object was to draw attention to the fact, that the rings which are ordinarily seen round the images of a star are not the whole of the phenomena optically due to the experiment.
- On the Projection of a Star on the Dark Limb of the Moon just before its Occultation,' by Prof. Strivlly. This the Professor considered to be a result of diffraction. Sir Isaac Newton having observed the shadow of a hair placed in a strong beam of sunlight to be broader than the hair itself, was led to investigate the course of a ray as it passed by the edge of a body, like the edge of a knife placed across a hole in the window-shutter, through which a sunbeam is admitted. At some distance the rays proceeded in their usual straight courses; while he found that, at a certain distance, they were bent towards the edge; but the courses of the nearest rays were bent away from the edge, so as to form curves convex towards it. The undulatory theory enabled us to trace these curves, and they were known to be of the nature of the hyperbola, with asymptotic branches extending onwards from the diffracting edge. Prof. Stevelly conceived the dark limb of the moon to be such a diffracting edge to the slender beam of light which reached us from a fixed star; and that as the curve was at the last moment the light was allowed to pass convex towards the moon, the portion of the ray which last entered our eye before the star disappeared, being the direc tion in which we should then see the star, if produced backwards, would meet the moon on her dark surface.

Sir D. Brewster said that if two observers were placed near one another, one will see the phenomenon and another will not. Besides, if it arose from the cause supposed by Prof. Stevelly, it should be observed when the edge of a distant spire or other terrestrial object appeared to pass over a star, which he was not aware had ever beed noticed. In his-pinion, the cause of it was
the light of the star passing occasionally through emall spots in the atmosphere, which differed from the turrounding portions, producing an effect on the image of the star something like mirage.-Prof. Challis observed, that if so, the edge of the moon would be rendered discontinuous at that part. - Sir D. Brewster replied, that the new property of the retina which he had described yesterday, supplied an answer to that objection; for it appeared that when two parts of a luminous line were disconnected, the retina filled up the chasm, and rendered the line continuous.-Sir W. Hamilton said he considered it rather favourable to Sir D. Brewster's view, that in some states of the atmosphere, he had observed the edge of the moon notched, particularly when she was near the horizon.

## MoNDAY.

Sxction B-CHEMISTRY AND MINERALO(iY.
Outlines of a Natural System of Organic Chemistry,' by Dr. Kemp.-The principles upon which theauthor proposes to establish his system are founded upon the assumption, that all organic bodias are derived from some compounds which have either formed portions of living organs, or been produced by their agency. Thus, assuming that all organic bodies of which nitrogen forms no part have been originally derived from starch; and that those, on the other hand, in which nitrogen is an essential element, proceed from proteine, he would have two general classes, amylogenic and proteineogenic. These classes are divided into orders, accordingly as the products are the result of natural causes or of artificial agents; genus being determined by the addition or subtraction of the element of water, and species by the condition of the compound as it regards oxygen and carbon.
' On the Ashes of Narcotic Plants,' by F. C. Weightson.-The great problem of Cheinistry of the present day in its application to Agriculture is_to determine the conditions necessary for a soil to produce the largest amount of any given crop of animal food-of food for man or beast. The solution to this question will in some measure be found when we have ascertained the proportions of mineral constituents required by plants of culture for attaining full perfection. The analysis of these plants alone, however, is not sufficient; we must have amalyses of the weeds growing upon soils, of plants unfit for the sustenance of animals; for it is shown, that they rob the farmer, not only of a large amount of mineral manure, but also of considerable quantities of that valuable ingredient, ammonia; and we shall not have obtained the data necessary for an improved and rational system of culture, until we include in our ash analyses a considerable number of weeds and useless plants, especially those of the most destructive kind. Some of them are well known to the farmer to be of serious injury to his crops mechanically; with respect to their abstracting important constituents of the soil, their injurious effects cannot be questioned. These plants contain more than 8 per cent. chlorine, and from 30 to 50 per cent. alkalies in their ashes. The dried leaves contained between 6 and 8 per cent. of nitrogen.
'Obeervations on the Ashes of Plants,' by Prof. Johngton.-Prof. Johnston drew attention to the differences in quantity of ash left, not only by different parts of the plant, but by the same part of different plants and by different portions of the same part. Thus, he stated that the ash of wheat straw varied from less than 3 to upwards of 18 per cent.; that of oats from 3 to 10 per cent. in different samples. But a more interesting result was, that the quantity of ash left by different parts of the straw varied very much. In wheat straw it generally increases upwards. These facts are of importance, both in a physiological and in a practical point of view. In regard both to what may be considered as essential to the several parts of the plant, and to the functions of the inorganic constituents which are found in them.
'On the Ashes of Oats,' by J. P. Norton (Connecticut, U.S.) -This communication might be considered, in continuation of Prof. Johnston's remarks, as illustrating by actual resulta those points which he indicated.

- On the Analysis of the A hes of ar tory. T. War.-The principle recommended was, to separate
the anses into four equal samples :-one to be used
for the detection of iron, lime and magnesia; from another phosphoric acid; from the third potash and soda; and the fourth is retained in ense of accident.
' On Mineral Manure, by Prof. Liebig. A verbal communication by Dr. Diefrenbach.-After alluding to the varying conditions of soils under the circumstances of geological and geographical position, Dr. Dieffenbach proceeded to point out the advantages of using such a compound that it should meet these circumstances. F'or instance, that for a moint climate it would be necessary so to prepare the saline manure that, although slowly decomposing to meet the requirements of vegetation, it should not be so soluble as to be washed nut of the roil by the rains. This is proposed to be effected by Prof. Liebig ; and, having ascertained the mineral constituents removed from the soil, it will be the object of the manufacturer to supply their place in the mineral manure. It was then pointed out that the manures required for wheat, oats, leguminnus plants and the potatoe must necessarily be different; and the object in view in the manufacture of this saline manure is to prepare it with the essential constituents for particular crops.
After the realing of these agricultural papers, a conversation ensued.-Dr. Dicbeny stated, that the fact of the proportion of inorganic ingredients varying in different parts of the plant was new to him; and he would be glad to know if the same difference was found to exist with other principles besides silex, as he regarded the silex merely as an excretion. He remarked, that plants grown in different places do not differ from each other 80 much as they had been stated by Liebig to do. He had analyzed plants taken from the sea coast, and did not find that they contained more soda than those which he had procured from the centre of England; indeed, in one case the excces was found in plants from one of the midland counties_-Prof. Solly confirmed Prof. Johnston's statement as to the different inorganic constitution of different parts of the plant, and stated that he had found great differences to exist at diffierent periods of the growth of the plant.
'On Gutta Percha,' by Prof. Sollx.-The history of this substance was given. The chemical and physical properties of Gutta percha were then detailed. Turpentine was stated to be the best solvent for it.

On the Chemical Changes occurring in Iron Furnaces,' by Dr. Lyon Playpair and Prof. Bunsen (Report, 2nd part).-This report went very extensively into the various methods adopted by the authors to insure an accurate determination of all the gaseous products of the hot-blast iron furnaces. It was found that cokeing was effected in the furnace to the depth of 24 feet. That the distillation of coal reached its maximum at the depth of 14 feet.-That the formation of tar took place at between 17 and 14 feet. Hence the coal had to travel 24 feet from the mouth of the body of the furnace to the boshes, to be entirely coked. A great diminution of oxygen is found to occur at those points where the gases become developed, and hence they pass away without undergoing combustion-and it has been estimated that 91 per cent. of the heating material in the form of gaseous products are lost in the hot-blast furnaces. The combustible gases driven off from the furnaces were expelled with a force superior to that used in driving coal gas through the mains for the purpose of lighting towns. These matters having been thoroughly ex-amined-and all the gaseous product submitted to analysis, many of the results being of a very curious character-the authors suggest the propriety of building a canal just above the point at which the gases are given off, for the purpose of conveying these products to other parts where their very high heating and illuminating powers may be employed advantageously. These gases in combustion, with a due supply of oxygen, would give a temperature higher than is necessary for smelting iron; and although the authors do not propose that it should be used for that purpose, they suggest the advantage of employing that waste material for heating steam apparatus -and many manufacturing processes.
tubsday.
'Contributions to the Chemistry of Diabetes,' by Dr. Percy.-This communication, although detailing with great exactness all the results of a laborious chemical investigation, was, in its applications, purely medical.

- On the Secretion of Flint in the Pulp Cavities of
the Teeth of a Fossil Reptile,' by E. Charlesworth. -This paper had been previously read in the Geological Section.
'On the Mechanical Equivalent of Heat,' by James P. Jorle.-The author gave the results of some new experiments in order to confirm the views he had already derived from experiments on the heat evolved by magneto-electricity, and from experiments on the changes of temperature produced by the condensation and raretaction of elastic fluids.
'On the Manufacture of a Coloured Class,' by M. Splittierber.-Specimens of glass were exhibited, into the composition of which gold entered as a chloride. These specimens were white, but upon gently heating them in the flame of a spirit lamp they became a deep red, transmitting the red rays of lighs only. If again the same reddened glass is expoeed to the heat of an oxygen blow-pipe it loses nearly all its colour, a slight pinkiness only remaining. M. Splittperber considers these results to arise from the oxidation of the chloride of gold in the siliceous compound.
'On the Presence of Ozone in the Atmosphere,' by Prof. Schiombin.-The action of heated platina upon the rapour of ether was shown, and the production of that principle, to which the name ozone has been given, was manifested by the bleaching of litmus paper, and the decomposition of iodide of potassium. The production of the amme principle during all the manifestations of phosphorescence was hrought forward as a proof of the existence of ozone in the atmosphere. Ozone was found to be of a deleterious nature, but it was removed most readily from the atmosphere by the organic matter, to the action of which it was constantly exposed. Prof. Schönbein then went into extensive speculations on the phosphorescence of the sea, which he regarded as a phenomenon in all respects resembling the slow comhustion of phosphorus; and this, with the luminous phenomena exhibited by insects, by rotten wood, and by putrefying matter, he attributed to the oxidation induced by the influence of ozone, which whs now most distinctly proved to be a per-oxide of hydrogen.
Prof. Faraday begged to correct an error into which he had been led some years since, when he stated this peculiar odour to be due to the formation of nitric acid in the air. Although he had formed nitrate of potash by the action of electrolyzed air on caustic potash, and consequently shown that nitric acid was formed, he believed the odour to depend upon some other cause. He could not go with Prof. Schönbein in all his speculations, but he thought the inquiry of importance. - Prof. Schönbein stated, that during a recent snow storm at Basle, iodide of potassium was decomposed by the action of the atmosphere in about six minutes.
' Description of a Colossal Hydro-Electric Machine, with a Notice of some Phenomena attending the production of Electricity by Steam,' by W. G. Arms-trong.-As an illustration of the power of this machine, Mr. Armstrong stated, that it had fully charged a battery containing thirty-three square feet of coated surface upwards of sixty times in a minute. He also mentioned, that by interrupting the electric current and causing it to pass through the thin wire coil of Callan's apparatus for inductive effects, he had obtained a secondary current in the thick wire coil, answering in all respects to an alternating voltaic current, and sufficient to occasion a permanent, though slight scintillation of two pieces of steel attached to opposite ends of the wire, and rubbed against each other.


## MONDAY.

Siction C-GEOLOGY AND PHYSICAL GEOGRAPHY.
On the Lake Parima, the El Dorado of $\mathrm{Bir}^{r}$ Walter Raleigh, and the Geography of Guiana,' by Sir R. Schomblirg.- The author commenced by alluding to the ill-fated expeditions at the close of the 16 th and commencement of the 17 th centuries, in search of the El Dorado and its reputed riches Manoa, the capital of El Dorado, was said to be built on a large lake, which Hondius first represented in his map of Guiana as 200 leagues long and 40 broad, -asaigning as its locality the isthmus between the Rupununi and Rio Branco: subsequent geographers retained the Laguna Parima, or Mar Blanco, but varied it locality; and although frumboldt, by rea-
soning founded upon pertonal experience and the
inspection of every document relating to the country, aserted that such a lake could have no real existence, yet within the last few years maps have been published upon which the lake still figures. At the time Humboldt published his Atlas, the regions north of the Amazon, three times as large as Spain, were unknown. It was this country which the author had been engaged in exploring since 1835; and the large maps which illustrated his paper proved the correctness of Humboldt's judgment. The fable of the "Mar Blanco" had doubtless arisen from the annual inundations of the vast savannahs between the Rupununi and Rio Branco and the Pacaraima Mountains and the thick forests of Essequibo, covering an extent of 14,000 square miles. These might once have formed an inland lake, but not within the historic period. The author then gave a sketch of the geography of Guiana,-which, although the largest British colony in South America, was so little known as to be sometimes spoken of as an island. The province is bounded in its widest extent by the rivers Amazon and Orinoco, and comprises an area of 690,000 square miles; the Casiquiare canal connects the Orinoco with the Rio Negro and the Amazon so that, in this way, the province may be circumuavigated. The fertility of the country is surprising to those accustomed only to the vegetation of the temperate zone; but the author gives it as his opinion, that no native of the north of Europe could endure the climate as labourers in the open air. The rivers of Guiana, aided by short over-land portages, afford inland communication with Monte Video at the mouth of the La Plata, with Cuzio, Lima, and Santa Fé de Bogotà. The Parime and Pacaraima Mountains scparate the fertile plains of the Lower Orinoco from those of the Rio Negro and the Amazon; the lofliest summits are in the most southern ranges, and in those most northerly. Maravacca, near the Orinoco, rises to 11,000 feet, and Roraima, the culminating point of the Pacaraima Mountains, is 8,000 feet above the sea; they are composed of the older red sandstone, and exhibit mural cliffs 1,000 and 1,600 feet high. From the walls of the latter mountains the river Kamaiba precipitates itself, in a cascade of nearly 1,500 feet, surpassing the Cascade de Gavarnie, in the Pyreneer, which is 1,266 fect. In the neighbourhood of these mural mountains porphyry, jasper and rock crystals were found.

On Posidonia Schist amidst Trappean Beds, and on Traces of Drift Ice in the South of the Isle of Man,' by the Rev. J. G. Cumming.-The steps of St. Paul's Cathedral, presented by the venerable Bishop Thomas Wilson, are the produce of certain quarries at Poolvash, in the Isle of Man; the rock is an impure black schistose limestone, containing bivalve shells (Posidonia), and is remarkably interposed between beds of stratified trap tuff; the order of superposition shows it to be of later date than the light-coloured limestones of Poolvash, whilst in mineral and palæontological character it presents a return to the condition of the lowest limestone of the series. The object of the paper was_First, to trace out the condition of this arca at the carboniferous period, and, necondly, to notice some of the more remarkable changes which have since passed over it.

On a Remarkable Phenomenon presented by the Fossils in the Freshwater Tertiary of the Island of Cos,' by Prof. E. Forbes and Lieut. Spratt, R.N.The extensive freshwater formation of the Island of Cos apparently agrees in age with the older pliocene freehwater of Lycia. It contains abundant and wellpreserved shells of the genera Paludina, Neritina, Melanopsis, Melania, Valvata and Unio; the three first being most numerous, and occurring throughnut the vertical extent of the formation, distributed in three successive series of horizons. In each of these horizons is a species of Paludina and of Neritina, and in each of the two lower ones are two species of Me lanopsis. The lowermost species of each genus are smooth, those of the centre partially plicated, and those of the upper part strongly and regularly ribbed. The forms in the several zones are so distinct and Well marked, that on a first examination it would appear that each series of horizons was characterized by certain species of its own, and representative of each other; and if he specips arecreyded as distinct, either auch concluglonithuat be eone to, involving the idea of a succession of crealions and extinctions
during the (geologically) short period in which the lake existed, or a transmutation of species must be maintained. The authors proposed to solve this problem by supposing a gradual influx of salt water into the lake, of which there is evidence in the occurrence of Cardium edule in the uppermost beds.

Mr. Lyell remarked, that a similar change had been observed in the common Limncus pereger. When carried from the rivers of Sweden into the Baltic, its appearance became so altered that it had obtained a new name. A similar change took place in marine shello, which became dwarfish and deformed in brackish water.

Prof. E. Forbes read part of the Report of the Dredging Committee [see Report of Section D], relating to the discovery of the Turbinolia milletiana off the Seilly Islands, a coral hitherto only known as characteristic of the miocene tertiary of Suffolk and Essex. It was taken alive, on sand; the form of its base being evidently a modification of that of Caryophyllia, adapted for growing upon sind instead of rock.
'On the Occurrence of the Mosasaurus in the Essex Chalk, and on the Discovery of Flint within the Pulp Cavities of its Teeth,' by Mr. E. Charles-worth.-This communication related to the saurian tecth figured in the Odontograply of Prof. Owen under the generic name Leiodon, and to a fragment of a jaw in the author's possession, from one of the chalk quarries on the Thames. Mr. Charlesworth contended that there were no grounds for removing the English fossil from the genus Mosasaurus, and proposed the specific name stenodon (narrow-toothed), to distinguish it from the Mosasaurus Hoffmanni.

Mr. Carter exhibited a considerable portion of the jaws of an Ichthyosaurus, from the chalk of Cambridge, which, he supposed, would constitute a new apecies, the tceth differing in a remarkable manner from those of any Ichthyosaurus he had examined, or of which he could find descriptions.
Mr. Stnickland exhibited drawings of the footprints of various animals on the new red sandstone of Corncodda-muir: many of the forms were previously unknown, and presented peculiarities.
tuesday.

- On Nodules, apparently Coprolitic, from the Red Crag, London Clay, and Greensand,' by Prof. Hen-slow.-The supply of phosphate of lime used in agriculture, and hitherto obtained from bones, having of late years become insufficient, Dr. Daubeny had been induced to visit Spain, in order to learn whether this deficiency could be supplied from the deposit of phosphorite in Estramadura. From his report.there appeared to be difficulty attending the project; but so important was it deemed, that a second expedition had been made, for the sake of further investigation. In Octoher, 1843, Prof. Henslow had called attention to the occurrence of phosphate of lime in pebbly beds of the red crag at Felixstow, in Suffolk; these nodules, though extremely hard, presented external indications of an animal origin, and yielded, upon analysis, 56 per cent. of phosphate of lime. Mr. Brown, of Stanway, had subsequently obtained several analyses of these pebbles, and of similar nodules obtained from the London clay in the vicinity of Euston Square, and found the same amount of phosphate of lime-viz. 50 or 60 per cent. in each. The crag pebbles occasionally contain remains of small crabs and fish like those in the London clay, leading Mr. Brown to the conclusion that they were derived from the destruction of certain beds of that series. The crag nodules were so abundant, that a gentleman had obtained two tons of them, -which, after being prepared, were found upon analysis to contain 531 per cent. phosphate of lime; 13 phosphate of iron, and the remainder carbonate of lime and volatile matter. The stratum of greensand, with similar nodules, had been described by Mr. Sedgwick [ante, p. 642]. Although never more than a foot thick, it occurred near the surface over many square miles in the vicinity of Cambridge; and the pebbles it contained yielded 61 per cent. of earthy phosphates and 24 carbonate of lime, the rest being insoluble. These were also considered coprolitic by Mr. Henslow; they freguently contained vertebrex and teeth of fishes, crab-shells, and other substances, apparently halfdigested. In illustration of the origin of such extensive layers of coprolitic matter in the marine formations, Mr. Henslow read a notice respecting the

Appearance of Sharks on the Coast of Norway,' [ante, p. 644].

Dr. Buckland doubted the coprolitic origin of the nodules; he thought they might have derived their phosphate of lime from the iron sand in which they were found.-Prof. E. Solly said, that he had visited Felixstow, to ascertain what quantity of these pebbles could be obtained for the manufacture of phosphate of lime, and was satisfied that many hundreds of tons would be easily procured. The small size of the pebbles, their uniform specific gravity, and the absence of alumina in their composition, besides the traces of organic matter which they always exhibited internally, led him to adopt Mr. Henslow's explanation of their origin.

On the Mechanical Action of Animals on Hard and Sof Substances during the Progress of Stratification, and on the Distinction between Cavities made by Raindrops and Bubbles on Red Sandstone,' by Dr. Buckland.-Dr. Buckland remarked, that remains of animals which perforate rocks and organized substances for their shelter and abode were almost unknown in the older strata, but that many instances occurred in the secondary period of extensive rock surfaces covered with the holes of boring-shells and worms. The most familiar example occurred near Frome, where the mountain limestone, covered by the inferior oolite, was penetrated by the biralve mollusks and annelids of the latter formation. $A$ similar instance occurs near Boulogne; and it is not uncommon to find thick shells and fragments of saurian bone perforated by the same animals. Similar operations might be observed on our own coasts ut the present time, some of the animals apparently making their holes only by the accidental circumstance of living on one spot for a long time, as in the case of the limpet and Echinus saxatilis,-0thers, like the Pholas and Lithodonus, requiring it as a necessary condition of their existence.

Mr. Lyell described the appearance he had noticed on the shore of the Bay of Fundy, where the tide rises and falls 60 or 70 feet, leaving extensive surfaces of red mud, which, after a succession of low tides, became baked by the sun and filled with cracks, so that slabs can be taken up and examined: upon these he found impressions produced by a shower ten days before, ripple marks, and the foot-prints of a sand-piper. The lamination of the sand represented successive tides, and when split open exhibited similar markings to the first. One of these slabs he had presented to the British Museum, where it was exhibited in illustration of the slabs of red sandstone, with fossil footprints of birds, from Connecticut.

Extract of a Letter from Mr. Hopkins, respecting Traces resembling Ornithichnites.'-This letter, dated "Bogotà, November 15, 1844," contained a drawing and description of certain tri-dactylous footprints observed by the writer on the soft sandy banke of the River Magdalena, in Mexico.
' On some New Additions among the Mammalia to the Fossil Fauna of India, from Perim Island, in the Gulf of Cambay,' by Dr. Falconer.
${ }^{6}$ Remarks on Fossil Trees at St. Helen's, Lancashire, which exhibitStigmarix as their Roots,' by E.W. Binney.-The fossil trees described in this memoir were discovered two years ago, standing upright in a bed of indurated clay, called the "Warren," and a notice of them was given, by Mr. Binney, at the meeting at Cork. Subsequently, Mr. Binney had obtained a more complete examination of the first and largest of the trees, and a fourth had also been discovered.

Mr. F. Whishaw exhibited a model, and described a method by which he proposed to exhibit at one view the results of a geological survey of any given district. The model was made of glass, and the colour of the strata were to be painted and burnt in along various lines of section, represented by vertical plate of the same material.
'On the Subsidence of the Land at Puzzuoli,' by J. Smith, Esq.-When the writer visited the temple of Jupiter Scrapis at Puzzuoli, in March, 1819, its floor was elevated about six inches above the level of the sea; but on the llth of May in the present year, it was covered to the depth of 18 inches at low water, and $28 \frac{1}{2}$ at high tide; the sea being calm at the time. The custore of the building told Mr. Smith that this change was progressive, amounting to It English inch per annum. The cicerone, too, who had exercised his profesion for 30 years, said he knew a dif-

# THE ATHEN $\neq U M$ 

#  

No. 948.
LONDON, SATURDAY, DECEMBER 27, 1845.
Pou ${ }^{\text {PRITRE }}$



UNIVERSITY COLLEGE LONDON.-





 8 guincas; for three months, lu guineas ; fur oue month, 4 gul
 AUGESTUS IFF: MOROAN Dean of Faculty of Arts and Lave
CHARISES C. ATKINSON.
Dec. 10.1845 CHAR secretary to the Council
TNSTITC'TE OF TIIE FINE ARTS.-The FIRST SESSIONAI MERTING of the third year of the


AHET. See to apply tu the Secrotary, at the Institute, 3 , Kumeli-place, \& itzrosdid
HDUCATION-CiERRANY -'The PRINCIPAL
 purcly dumestic principles of Ejucation, having TVO VACANbining the ad rentakes of Engltsh Buperinteudence on the Conti-

pursuitar, Trincipal's Prospectus, with the best referencea, fully conThe Principals Prospectus, with the best references, fully con-
fimatory of tho above, may be had of Mr. Hookham, Library,
Oid Bond street. SCHOOL, FAMILY, and CLERICAL


 tinent, can introduce superior Finglish and Foreign ©overnesses,
with good references. - Letters, ine only expenge to Pringluals, with good ref
must be fres.

TO AUTHORS AND PUBLISHERS.

MR. JOSEPII JACKSON (late of Sambrook Court), Arbitrator and Accountant, haring had many scar Publighers, offers his services to adjuat disputed and Partnerzhip Acoounta, Mr. Jackson has algo had great experience in the G, tuildhall Chambern, Basinghall-strect.

CHEMICAL APPARATUS.

AGENTLEMAN is desirous of PURCIIASING an AIR-1'UMP and ELECTRIC MACHINE, with any Room-Applications in writing, stating the nature of tho appa-
ratua, and where it may be seen, to be addressed to Y. A. W., care retua, and where it may be :
of $M$ r. Tennant, 144, Strand.
TO BOOKSELLERS and STATIONERSBuok and STATPONEROF an Ohidestablished and Valuable
Counties, haring aniss in one of the Mldand Counties, haring a fint-riat family connexion. The Printiug De-
partment will be carried on by the present proprietor. The partunent will be carriod on by the present proprietork The
population of the town and neighbourhood exceeds iov, ow. To any
person, with a mood knowledre of
 TDINBURGH REVIEW, No. CLXVII, -
 S9, Puternoster-row. Dec. 27,1845,
CHHAP BOOKS, Just published, E. \& J. Hising a larse CATALOGUE of OLD and NEW BOOKS, Theology, Topography, General History, the Fine Arts, \&e-now

HDWARDSS KANDOM CATALOGUE of and MUSIC Will be ready to be posted free through the world oon When Buroks, Prints, or Music is parehased, and in all the For largion ormall colyeotiona, ine caek for them be found; Your commands shall be attended to by olearing them away TO VIAITORS TO THE CONTINENT. PSSRS. J. \& R M'CRACKEN, Foreign



T A. GODDARD FOL TOURISTR Cle Aamw, 36, Old Jewry, respeotfully informe General clerky, and Gentry, that he undertakes to receive and pass through to forward House, Works of Art. Winee Baggage de.; and also atmoot attention. G. may be intrusted, will be exeented with the utmoat attention and promptitude, and on terus that will insure
him future favourz-phe fiet of J. A. (. Poreign Correspon-
dents, and every information, may bo obtained at his ofices, 36 . dents, and
Old Jewry.

## SCOTTISH WIDOWB' FUND.

$\mathrm{T}^{\mathrm{H}}$
HF BOOKS of the SCOTTISH WIDOWS' FUND LIFE ASSURANCE SOCIETY, Ror the current Which day the Fourth Inveatigation into the affairs of the Bociety Addition to the Polices.
London Ofice, 7 Pall Mall

## NBW CHINESE TALE

MR. LYMBURNER'S NEW WORK, the IV PALL of the NAN BOUNG ; A Tale of the Mogul Conquest of China, is now published. Publishers, Conduit-atrcet.
SCHOOL EDUSt publiched in eloth boards, tif
SCHOOL EDUCATION for the NINETEENTH CENTURY BYEL PRFSTON.
Principal of IIUfyl II ouse A eademy, 8iamford Hill.
London: Bimpkin \& Marshall.
This day is published, and may be had of all Booksellers.
THOM'S IRISH ALMANAC and OFFICIAL H DIRECTOKY for 18:G
Almanac and Offecial Directory, with the Dublin Direotory, 10a. od Almanac and Official Directory, without Duhlin Directory, Ga
Dublin: Alexander Thom, Printer and Publisher, s7, Abbey Loudon: Lonander Thom, Printer and Publisher, 87 , Abbey street
Frazer \& Co.; Liverpool : George Philitp. Longmans : Edinburgh:

JuORAL TRAINING。
 - as 2SSAY on MORAL TRAINING
nthorees of ' Firat Lorer MrailoUDON

Anthoreser of 'Firat Lover,' Dilemmas of Pride,' Portune Hunt inge' $\& a$

Iondon : Smith, Elder \& Co. 65, Comhill
CEOGRAPHY SIMPLIFIED; to which is appended Moral and Historical Observations, on the Princlpal
Nations of the Earth, with brief Notices of European Dbeovers and Colonization. Darton \& Clark Holborn-hill, London ; J. W. Showell, Bir mingham : Olicer Boy eninhurgh DR. PAUL HENRRY Y ITIFE and TIMES CALVIN. Translated from the German. By the Lhe
H. BTEBBING, D.D. F.R. R
In Parts, uniform with Whitaker's Popular Library.: In Parts, uniform with
Whittaker $\&$ Co. Avo Maria-lane.
THE Iust riady, in \& vols. 8ro. cloth lettered, prioe THe.
A'BECKET. Now first gathered from the Contempporary Historiana, By the Rov. J. A. GILES, D.C.L.,
Corpus Christ1 Colleqe, Oxford.
Whittaker \& Co. Ave Maria-lane.

A CATEECHISM of CHESS; in played in the are fully explained the rudimenta of the game, ${ }^{\text {gat }}$ 2dition of Pintuock catoohisms.
Perfect it would seem in all pal
amples, aud all the et ceterna of a chest-player's first book. We


Whittaker \& Co. Are Maria-lane.
Just issued, in a neat mrapper imperial squaro 18mo. price 18.
WHITMKER' CAL INSTRUCTION.
Compoed and written by
HERBERT RODWELL.
The Violin,
And preparing for immediate publication. The Guitar.
These works are carefully adapted to the cepecities of thowe Who master, and by their clear and coucise method, and very moderate price, come within the meand of all classes
Whitelaker \& Ca . Ave Maria-lane.

TOR THE NEW YEAR.
THE PRIVATE DIARY, formed on the Plan 1 of 'The Studeat's Journal,' for general Use Pout \&va halfa This exact sooount of my time will make me more senelble of
 The Student's Journal. Arranged, Printed, and
 halp bound, te. Ed this dar to keep an exaet Journal of my Actions and studice, both to arist my Memory, and accustom mo to set a The Literary Diary ; or, Complete Common-
 A Pocket Common-Place Book. With Locke'a Indoz Poat ova halr-bound, sa, od

Iopdon ; Tavios \& Walion, 28 Upper Ginferkreot

ELEGANT CHRISTMAS PRESENT.
This day is published, square 8ro. 130 Illustrations, es. cloth, DK Tales *** These charming tales are descrvedly fameus orer the con tinent for their orikininlity, simplicity, and kraphic power. They
have been transluted into the Yolish. Bohemian. and German have been thansinted into the polish, Bohemian, and German were sold in the short spice of four montha,
London : Longman, Brown, Green \& Longmans.


GEOLOGY AND TERRESTRIAL MAGNETISM.
With 24 Platen large 8\%o. price ${ }^{\text {10a. Gd. cloth, }}$
the $C O N N E X I O N$ of $G E O L O G Y$ with Polarity of Matter, the Meridignal Structure of the Crystaline Kocks, th Metalliferous Deposits, nd other Magnetic Phrenomena K \& By EVAN HOPKINH, C.F. Fi.G.S.
KNIGHT'S WEEKLY VOLUME. PRICE ONE SHILEING This day,
DALEY'S NATURAL THEOLOCY By HENRY LORD BROCGHAM, F.R.S.
And Sir CHARLES BEHIL, K.G.i. London : Charles Knight \& Co. 22, Ludgate-street.
MR. GRAHAM'S NBW WORK FOR SCHOOLS.
TNGLISI Just Sublished, fcap. 8ro. 7a, cloth, Private Tuition. Bith Practical Exercises, designed for Schools and Private of Composition,' Helps to Erglish Grammar,' Eo, London: Longman, Brown, Green \& Longmans; Of whom may be had, by the same Author,
English ; or, the Art of Composition. Helps to English Grammar. 3 s. THE COOK'S ORACLE, NEW EDITION.


R. Cedell, Buinbuyath ; Houlaton \& Stoneman, London.

MRS. DALGAIRNS' COOKRRY, NEW BDITION.
ПHE PRACTICE OHF OF COOKERY Adapted to the business of Everr-day Lifo. Teath Editton, Fith Additions, cloth, gilt
F. Gedell, Edinburgh ; Houlston \& Stoneman, London. NEW MUSICAL CHRISTMAS PRESENT.
CINDERELLA, a Fairy Legend, adapted to the C Pianoforte without rhyme or (very litlle) reason, by CHAs. W


 March across the

RAILWAY CARRYING AND OARRIERS' LAW. TTHE LIABIIITIES and NON-LIABILITIES Ways of CARRIERS and OTHERS; the Disputes between Kail ways and
ments, \&a.
Author of 'Railway and IAnd Taxas NASH,

 Pelham Richardson, 93, Cornhill; Reed's, 15. Charing-erose Bihrary, 25,

DR, WALSHE ON CANCER.
 1 CANCER.

By W. II. WAISHR, M.D.
Proferorof Pathonoficat insatomy in University Collega, Phyidelan
to niversity Collego Hoopital and to the Hompital for Con to Eniversity Concege Hoppital, and

BOOKS FOR PRESENTS, 1. Rogers's Poems 72 Vignettes. 32 e .

Italy. 56 Vignettes. 32s.
. Wordsworth's Poetioal Works. 40s.
4. Campbell's Poetical Works. 36s
5. Tennyson's Poems. 2 vols. 32s.
6. Campbell's Shakspeare. 36s.
7. Chaucer's Poetical Works $36 s$.
8. Enaucer's Wenser'z Works. Tife by Todd. 36s.
"wondrous pleasant" Christmas "masque or antemısque."
The portfolio of lithographs of Vieres in Franconian Switzerland and Bararia, tempts the eye by the singularity and picturesque features of the scene, rather than by any beauty or skill of execution. The district between Bamberg and Nuremburg,-one of the most beautiful and least visited parts of Midland Germany,- deserved better artistic treatment than it has here found.
The two well-known characteristic and pleasing single figurcs, Confidence and Diffidence, by Mr. Hannah, of which, we believe, Mr. Rogers has become the proprietor, are before us,-forcibly engraved in mezzotint, by an artist new to us, Mr. S. Bellin. As far as we recollect the handling of these pictures, it does not lend itself to any great delicacy on the part of the burin, and the engraver has not flattered the peculiarity.
A line will suffice to say that Mr. Harvey's Smuggler's Escape, rendered in aquatint by Mr. C. Rosenberg, is a coloured print, in the style which was in vogue some thirty years since; but not particularly good of its kind.

Here are two other single prints: a coarse and clumsy lithograph of Herr Pischek, from a portrait by Steinbach; and an impressive likeness of Miss Cushman, in the character of Mrs. Haller, lithographed after a drawing by Mr. Watkins,-we believe an American artist.
By way of closing our notices for the year, wo may announce that the Illuminated Illustrations of the Bible have reached their eleventh number-that Mr. Shaw's Alphabets, Numerals, and Derices of the Middle Ages is at its twelfth, and the British Wild Flovers of Mrs. Loudon at its sixteenth number. Part the tuenty-fourth of Old England, and part the tenth of The Pictorial Gallery of Arts, are also before us. Finally, from the press of M. De la Rue, comes the superb Floral Almanack for 1846,-the design by that choice designer of ornament, Mr. Owen Jones.

## HUBIC AND THE DRAMA

Music of the Week.-Among the most interesting entertainments for the winter season are the meetings of The Choral Harmonists' Society. The programme of the second of the serics comprised Beethoven's Mass in c-A Song by the Chevalier Neukomm—a 'Laudate' by Cheruhini-Galliard's ' Morning Hymn'-a Madrigal-Beethoven's music to 'King Stephen'—an Air and Chorus from Schubert's 'Fierebras,' \&c. Now the enterprise which aspires to produce so much novelty is so meritorious that we cannot see it losing its way without remonstrance. Those who cater for the Choral Harmonists seem in some danger of forgetting that all that is new is not, therefore, of necessity truc. If the Oratorios of Boyce, and Arne, and Stanley, and Worgan, and Russell are allowed to "sleep their long sleep," as merely imitative mediocrities which were called into life by the appearance of an original genius in an original form of composition_then, too, good Master Galliard's ' Morning Hymn' might also be securely permitted to lie mute-without City or West-end amateur suffering from the silence. We are glad to observe the name of Cherubini coming into request. The 'Laudate, given on Monday, is one of his less substantial sacred movements, the ideas of which are somewhat of the oldest-yet it is beautifully jubi-lant-and with a clarion-voiced soprano to sing it, the effect would be very brilliant-the treatment of the orchestra and chorus being masterly. We hope that the Choral Harmonists will search further into the works of Cherubini. Why is it, by the way, that in alternation with these continental masters, no body of singers, great or small, ever seems to think of our great countryman-Samuel Wesley? We have for years been told again and again of the beauty and skill of his sacred compositions_but when was a bar of any of them to be made acquaintance with in London? It must be worth while for some Director or Committee to give attention to this question: since all must rejoice that the class of amateurs, who sit doggedly down to enjoy only one school (nay-who knows? one master) is dying out:-these being lovers of their own whims-and sympathies; not of a noble and yarious art. Thes nutyiteregard to
the selections of the Soriety of Choral Harmonists the performance on Monday was neither good, nor indicative of progress. Mr. Lucas, its former conductor, was seriously missed,--the execution of the band being far more of a scramble in the style of Monsicur Pattier's quartett-playing (see Paul de Kock's capital caricature) than London ears ought to put up with.
On Monday, too, the British Musicians closed their series of Chamber Concerts-the most striking feature of the evening's entertainment being a clever Pianoforte Quartett, by Mr. Charles Horsley. To judge from the activity of this gentleman, he would seem disposed to enter the lists against Mr. W. S. Bennett and Mr. Macfarren, as the English instrumental com-poser-though, as also is Mr. Bennett's case, his admiration of Mendelssohn leads him into a closer imitation of one model elect, than is compatible with the championship of his country. We are told that the British Musictans intend to give four grand orchestral concerts in the Hanover-square Rooms. Let us impress upon them, that if indeed they would "mark a point" by such a movement, they must exercise strict judgment in selection, and careful performance. Disregard of these essentials, and not want of producible talent, destroyed their concerts ten years ago.
We must advert to the last of Mr. Lincoln's Fir $t$ Series of Evenings with the Great Composers, given on Tuesday, to express our approbation of the manner in which he has kept his faith with his audiences, and our pleasure at seeing an entertainment of such superior interest steadily growing in popular favour. Tuesday's meeting, too, which was devoted to Mendelssohn, had an especial interest, as affording us an opportunity of hearing one of the master's recent compositions-his Violin Concerto, originally written, we believe, for Herr David, which was cleverly performed by Herr Kreutzer, an artist new to us. So far as we could judge of a composition, into which the orchestral support seems interwoven with equal grace and solidity,-when executed with merely a pianoforte accompaniment-this Concerto seems effective and various: the andante especially pleased us, as written in a delicious pastoral style, without the slightest of those Arcadian affectations with which the modern romanticists are apt to mar the repose of music so designated. The rondo, too, in E major, is singularly buoyant and brilliant. A pleasanter winding up to our musical year could not be devised, than a first hearing of so interesting a work-coupled with the success of an undertaking so creditable to all concerned in it.
Mr. Balfe's New Opera and the Prpse. Having nothing but the reports of the French press to guide us, our impression is that Mr. Balfe's ' Estrella,' produced last week at the Académie, will neither sink deep nor last long-as a success in Paris. How far it may travel, is another matter; since, we have learned, from the popularity of 'The Four Sons of Aymon,' that Germany can make very welcome an opera which cannot sustain itself in either the French or the English capital. Madame Stoltz, the prima donna, is spoken of as having distinguished herself: so also has Signor Gardoni, the tenor-and the opera is praised as being splendidly put on the stage. But beyond a clever Duet-and a Quartett which opens well—we do not make out much that is likely to attract or retain the connoisseurs of Paris; a body neither casy to direct, nor to blind.

While guarding our readers against the possibility of mis-information, we have another design than merely the accurate judgment of a particular opera. We would point out not merely the practical inconvenience to the public-but likewise the disservice to Art—_arising from the state of a press, from the reports of which truth is only to be gathered by such translating power as belongs to those conversant with the world behind the scenes. That, in Paris, the musical journalists are generally at the service of the highest bidder, is a fact of which neither critics nor artists make any secret. We are fearful lest such untruthfulness should become the rule-not the exceptionin England also. Too much has come before us during the past twelvemonth-from the case of unblushing bribery down to the delicate cajolcry of privateintercourse-not to warrant apprehension. The evil must be obvious to all save to those in whom selfrespect falls short, or with whom impudent cupidity
has no limit: and, though such a system (like all systems of corruption) must ultimately destroy itself -we cannot watch its adoption, without anxious and indignant protest. Let us hope that every one whom these matters concern-whether it be the artist who ought to be also a poet, or the merchant of hit talent, who can hardly be expected to look beyond his gains-will see cause to discournge a traffic so degrading and ultimately ruinous to Art itself.

Lyceum-On Saturday this theatre re-opened, under auspicious circumstances. Mr. Dickens, it seems, had confided the proof sheets of his Christmas tale to Mr. Albert Smith, to be dramatized with express reference to the company. It is, indeed, stated, upon what authority we know not, that the tale itself was written with a view to its performance here; the simplicity of its maticicl is accounted for on that supposition, and its defects as a story allowed for. If Mr. Dickens has done so, we should advise him never to repeat the experiment. Let the stage take care of itself; it has its own limitations: the romancer works in a more liberal sphere, and enjoys a wider range. Let him not contract his free spirit to artificial necessitics, but expand to the full liberty which belongs as a glorious privilege to the author's special function. We have already stated the plot [ante, p. 1219] of the story, and have only to record that, whether owing to the circumstances alluded to, or to the felicity of accident-[i.e. as drama, not as story-book]-there are fewer differences between the closet and the stage, between the acted and the read, than usual in similar cases. In our recent notice of the work, there is one subordinate character which we did not mention, but which, although it fell not then within the plan of our outline, deserves remark, as being perhaps the only new portrait in the group, -we mean Tilly Slowboy, the gaping, wondering, untidy, and clumsy nurse-girl of the Carrier's baby. This character, performed by Miss Turner, though having but few sentences in all to say-mere nonsense prattle uttered to the baby, constructed of fragments from the general dialogue, with all the nouns converted into plurals-told remarkably well in performance, exciting uproarious mirth. The part of the Blind Girl, Bertha, was performed by Miss Mary Keeley, the daughter of the manager, who made her début on the occasion, and went through it with a propriety which promises well for her permanent success. Mr. Keeley was Caleb; the part of the heroine, Mrs. Peerybingle, being performed by Mrs. Keeley. She did it admirably $s$ never has she been better suited. Nor was Mr. Emery wanting to honest John. The other charac ters were respectably filled.

## MISCELTANEA

Paris Academy of Sciences.-Dec. 15.-A paper by M. Regnault was read relative to his experiment on steam. The Minister of Public Works assisted M. Regnault with the means of making these expe riments on an extensive and practical scale. The questions to be determined by M. Regnault, were1. The law which unites the temperatures and elastic powers of aqueous vapour at saturation. 2. The quantity of heat absorbed by a kilogramme of water at 0 degree, to be converted into steam for saturation at different degrees of pressure. 3. The quantity of heat absorbed by the same quantity of water in order to raise the temperature to the point in which it assumes the state of vapour under different pressures. 4. The specific heat of aqueous vapour at different stages of density, and at different degrees of temperature. 5. The co-efficients of dilatation of aqueous vapour in different stages of density. In his present paper M. Regnault gives the law of the elastic powers of steam up to 230 degrees centigrade, which temperature corresponds to 28 atmospheres and a half. IIe next fixes the total heat of steam taken at different pressures, from 1-5th to 15 atmospheres, and finally, he treats of the calorific capacity of water from 0 to 190 degrees. Many distinguished men have devoted their attention to the elastic powers of steam. We may mention Achard, Greu, Dalton, Christian, Arzberger, Watt, Robinson, Bétancourt, Schmidt, Southern, Ure, Gay-Lussac, August, Kaemtz, Dulong and Arago, the two latter of whom commenced their experiments in 1823, at the request of the Minister of the Interior, and pub-
lished an account of them in 1829 . They carried their operations up to 25 atmospheres. About the same period a commission of scientific Americans performed a series of experiments on this subject, but went up to only 10 atmospheres. The results, however, of these diflerent experiments were not alike, consequently M. Regnault had to take entirely new ground, greatly aided, however, by the progress which science has made since the period alluded to. In his results he agrees most with MM. Dulung and Arago, particularly as regards high rates of pressure. Watt had supposed that the total quantity of heat necessiry for the transformation of a kilogramme of water into the state of steam was certain under a constant pressure. The number admitted was 650. This law, although not exemplified by any precise experiment, had been until very lately regarded as positive, and so adopted in theory and practice. M. Regnault, however, has asecrtained that this number increasesconstantly from 622 under the pressure of onefifth of an at mosphere up to $6 \overline{7} 0$ under 15 atmospheres. At the ordinary pressure the average of 38 experiments gives 636,37 . As to the calorific capacity of water it is 1,000 between 0 and 30 degrees, 1,005 between 30 and 120, 1,013 between 120 and 190.-A paper was received from M. Daubree relative to the high rate of temperature in an artesian well, at Neuffen, in the kingdom of Wurtemberg. The Count de Mandelslohe, says M. Daubrée, has ascertained in this well a more rapid increase of temperature with the depth than has ever yet been witnessed in any other locality. In most of the artesian wells it has been found that the temperature increased about one degree for every 30 metres, but at Neuffen the increase has been one degree for every 10 mètres. The depth of the well is 38.5 metres, and the temperature at the bottom is 38 deg .7 min . of centigrade (about 104 of Fahrenheit). The nearest approach to this great exception from the normal state of things is at Monte Marin, in Tuscany, and it is worthy of remark that in hoth cases the bottom of the well is still 35 metres above the level of the sea. M. Daubree thinks that the cause of these anomalies is the ancient heat of the ignitial rocks, which being very slow conductors of heat communicate but a small portion of it to the surrounding strata.-M. Durand laid before the Academy the results of his experiments on the roots of certain plants which seek to escape from the action of light, such as the radish, the wall-flower, the camellia, the turnip, the colza, \&c., whilst the roots of other plants, amongst which he mentions the onion, have a direct inclination towards the light.

The 'Cesars' at llampton Court.—With reference to the letter of M. A. I. in the last Athencum, I beg to say that of the three busts lately found at Windsor and put up at Hampton Court, and stated to be three Casars, one is decidedly the bust of a female, and well known by me, as well as by a celebrated court painter and architect, to be the bust of a Minerva or Bellona; and that the other two have been long considered as busts of Queen Anne. If, therefore, it be true that Leo $X$. did present Wolsey with twelve 'Casars,' which were employed in the decoration of Hampton Court, it is evident that the ladies above mentioned, if not out of place, are in a situation for which they never were intended. W.B. [That the busts found at Windsor were popularly called busts of Queen Anne, is mentioned by Mr. Jesse-but this proves nothing. Can W. B. show that such busts were manufactured in the reign of Queen Anne? $]$
Extensive Conflagration.-A journal of St. Petersburgh publishes an account of a fire which took place on the 23 rd September in the Government of Tobolsk. It appears that it commenced in a forest near Omsk, and extended to a distance of fitty French leaguen, over a breadth of fifteen. Eleven villages were attacked in its course, and one was entirely destroyed. In the ten others there were burned 13 mills, 1,850 barns, 77,800 ricks of hay, and an immense quantity of wood for fuel. Twentyfive peasants, $65 \%$ horses, and 915 head of cattle were burned to death.
To Comberontints-C. T.-C. H.-M. R.-R. P. C.-W. C.-A Constant leader-received.

Eiratum.-P. 11!א, col.2. It was W. Walton and not H . Walters, who received the prize for the Architectural Drawjug at the Royal Acadery

Digitized by $\quad$, OQle

# M. A. NATTALI'S ANNUAL CATALOGUE 0 F <br> 8IE MHOUEATM 200ESS FOE 1846, 

Which may be had Gratis by applying prepaid.

Cheap, elegant, and valuable books, fuitable for christmas and new year's GIFTS AND PRESENTS.

THF NATIONAL GALLERY of PICTURES, a magnificent Series of Twenty-nine Plates from the Finest Pictures in the World, enseraved by Finden, Hoo, Burnet, (iolding, sc. Imperial folio, Lalf-bound morocco
 oliu, il. Ss.; published at 14l. 14s.; or splendidly bound in morocco, with broad borders of gold on the sides, 91.98 . *** This work is printed $^{*}$ uniformly with the celebrated 'Musie Francais,' and in respect to the engravings as works of Art they may be considered as chif Gurere of the eminent Artists employed on the work.
TIIE 'FORGET-ME-NOT,' an elegant Literary Souvenir and Keepsake, containing Prose and Poetry by the best Authors of the day. Exquisitely illustrated with 110 Plates, from the best Pictures and by the first Engravers. 18 vols. 1 zmo. bound, cloth elezant, vilt leaves. $3 / 128$.; publistied at 101.168 .

$$
*_{*}{ }^{*} \text { Each volume is sold separately, price } 4 s \text {. ©d. in cloth, or in morocco, } 50 \text {. }
$$

GALLERY of PICTCRES; Seventy-three Plates, from Pictures by the First Masters of the English and Foreign sehools. By Allan Cunningham. 2 vols, royal 8vo. elegantly bound in cloth, gilt, and top edges gilt, ll. Ge.; and rished at 3.3 .
LIVERSEEGES WORKS, in 37 Plates, in mezzotinto, by Cousens, \&c. Folio, half-bound morocco elegant, with gilt leaves, 2l. 12s. Gd.; published at 6i. Gs.
"As an artist he was excellent in expressing character."
MRS. S. C. HALLS SKETCHES of IRISH CHARACTER. Five Plates, by Maclise, and fiftynine Woodcuts. Imperial 8vo. elegantly bound, cloth gilt, 14s., published at 16.58 ; half-bound, morocco elegant, 178.
COOPERS GROUPS of CATTLE, drawn from Nature. 26 Plates, royal folio, half-bound morocco elegant, gilt lea ves, $2 l .16 \mathrm{~s}$. ; published at 41.46 .
LIBRARY of ENTERTAINING KNOWLEDGE, with upwards of 1000 Woodcuts. 43 vols. 12mo. bound, cloth lettered, $56.158 .6 d$. ; published at 9.13 s . 6 d.
PROUT'S HINTS on LIGHT and SHADOW, 25 Plates, 4to. cloth, $1 L$ 5s.; published at $2 k .2 s$.
PROUT'S SKETCHES at HOME and ABROAD, 48 Plates, imperial 4to. half-bound morocco elegant, gilt leaves, $2 l$. ; published at 31. 13s. $6 d$.
PUGINS SPECIMENS of GOTHIC ARCHITECTURE, 114 Plates, 2 vols. 4to. half-bound morocco, for 31.13 s . $6 d$. ; published at 62.66 .
PUGIN'S ARCHITECTURE of NORMANDY, 80 Plates, by Le Keux, 4to. half-bound, morocco, 21. 12s. Gd. ; published at 61.6 s.

PUGIN'S ORNAMENTS of the FIFTEENTH and SIXTEENTH CENTURIES, 102 Plates, 4to. half-bound morocco elegant, with gilt leaves, 2l. 12s. Gd.; published at 4l. 14s. $6 d$.
BRITTON'S CATHEDRAL ANTIQUITIES of ENGLAND, 322 Plates, 5 vols. 4to. half-bound morocco elegant, with gilt leaves, for $12 l$. 128 . ; published at $35 l$. Fach Cathedral is sold separately.
BRITTON'S ARCHITECTURAL ANTIQUITIES of GREAT BRITAIN, 360 Plates, 5 vols. 4to. half-bound morocco elegant, with gilt leaves, for 12L. 12s.; published at 316. 10s.

BRITTON'S ANCIFNT ECCLESIASTICAL ARCHITECTURE of GREAT BRITAIN, 80 Plates, 4to. half-bound morocco elegant, $2 l .12 \mathrm{~s}$. 6 d. ; published at 6 . 15 s .
BRITTON'S and LE KEUX'S ANTIQUITIES of ENGLISH CITIES, 60 Plates and 24 Woodcuts, 4to. half-bound morucco elegant, with gilt leaves, 11. 168.; published at 76.48.

ACKERMANNS HISTORY of WESTMINSTER ABBEY and its MONUMENTS, 80 Plates, coloured, 2 vols 4to. half-bound morocco elegant, 12 4f.; published at 161.
ACKERMANN'S IIISTORY of OXFORD, 114 Plates, coloured, 2 vols. 4to. half-bound morocco elegant, 41. 48. ; published at 212 .
ACKERMANN'S HISTORY of CAMBRIDGE, 97 Plates, coloured, 2 vols. 4to. half-bound morocco elegant, 41. 4s. : published at 211.
ACKERMANN'S HISTORY of the PUBLIC BUILDINGS of LONDON, 104 Plates, coloured, 3 vols tho. half-bound morocco elegant, 33 . 15 .; published at 151.15 s.
ACKERMANN'S ONE HUNDRED and TWENTY DESIGNS for the USE of SCULPTORS, CARVERS, PAINTERS, de., folio, half-bound morocco, 1h. 16s.; published at $5 l$.

STEVEN'S COTTAGES and FARM-HOUSES in ENGLAND and WALES, 54 Plates, 4to. halfbound moroceo, 11.1 s ; published at 3 . 3 s.

CONEY'S BEAUTIES of CONTINENTAL ARCHITECTURE, 28 Plates and 56 Vignettes, imperial 4to. half-bound morocco elegant, gilt leaves; reduced to 11. 16s.; published at 4l. 4s.
COTMAN'S ARCHITECTURAL ANTIQUITIES of NORMANDY, 100 Plates, 2 vols. in one, folio, half-bound morocco elegant, 4l. 14s. 6d.; published at 122.12 s .

FOSBROKES FNCYCLOP FDIA of ANTIQUITIES and ARCH FOLOGY, enlarged edition, with 107 Plates and Cuts, 2 large vols. royal 8vo. cloth lettered; published at $2 l .12 \mathrm{~s}$. $6 d$. ; reduced to 12.15 .
FOSBROKE'S BRITISH MONACHISM ; or, the Manners and Customs of the Monks and Nuns of England. Fifteen Plates and Cuts. New edition, enlarged, royal 8vo. cloth lettered; published at 1 lh 1 s ; reduced to 16 f .
FLAXMAN'S ANATOMICAL STUDIES, for the Use of Artists, 18 Plates by Landseer. Folio, cloth, 11.18.
FLAXMAN'S COMPOSITIONS FROM DANTE, 111 Plates, oblong 4to. half-bound morocco, for 21. 2s.; published at 4l. 4 s .
${ }^{2}$ : ; ; paxman has translated Dante best, for he has translated it into the universal language of nature."-Lord Byron.
NICHOLS'S AUTOGRAPHS of ROYAL, NOBLE, LEARNED, and REMARKABLE PERSONAGES. Fifty-five Plates, exhibiting about 600 Autographs, printed on tinted paper, royal folio, cloth lettered; published at 41.45 ; reduced to $1 i$. 48 .

WESTALLS MANSIONS of ENGLAND, 146 Plates, coloured, of the Country Seats of the Royal Family, Nobility, and Gentry, 2 vols. royal 8vo. half-bound morocco elegant, top edges gilt, $2 \mathrm{2h} 2$. ; published at $4 h$ 108.
M. A. Natrali, 23, Bedford-street, Covent-garden,

UNIVERSITY OF CHICAGO

## HathiTrust



# www.hathitrust.org 

Public Domain, Google-digitized
http://www.hathitrust.org/access_use\#pd-google

We have determined this work to be in the public domain, meaning that it is not subject to copyright. Users are free to copy, use, and redistribute the work in part or in whole. It is possible that current copyright holders, heirs or the estate of the authors of individual portions of the work, such as illustrations or photographs, assert copyrights over these portions. Depending on the nature of subsequent use that is made, additional rights may need to be obtained independently of anything we can address. The digital images and OCR of this work were produced by Google, Inc. (indicated by a watermark on each page in the PageTurner). Google requests that the images and OCR not be re-hosted, redistributed or used commercially. The images are provided for educational, scholarly, non-commercial purposes.

oigtreat by Google
Original from
UNIVERSITY OF CHICAGO

