



VOL. VI.—No. 131.] WEDNESDAY, MAY 14, 1890. [ONE PENNY.

THE PALACE JOURNAL will be sent post free as soon as published to any address in the United Kingdom for 6/- a year, or 1/6 a quarter. Subscriptions must be prepaid. VOLUME IV. is now ready, neatly bound in cloth, 4/6. Covers for binding, 1/6.

NOTICE

By payment of an additional fee of sixpence per quarter, Students will have the privilege of attending the Concerts and Entertainments arranged expressly for them in the Queen's Hall on Wednesday evenings.

AN EFFICIENT COOKERY SCHOOL is now available; Evening Lessons on Mondays, Thursdays, and Fridays; Day Lessons, Monday and Thursday afternoons. Full particulars at the Schools Office.

Coming Events.

- THURSDAY, May 15th.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.—Designs of new London Tower on view, free.—Cycling Club.—Run to Woodford.
- FRIDAY, May 16th.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.—Designs of new London Tower on view, free.—Choral Society.—Rehearsal, at 8.—Orchestral Society.—Rehearsal, at 8.
- SATURDAY, May 17th.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.—Chess Club Practice, at 7.—Tennis Club Practice, at 3.—Cycling Club.—Run.—Cricket Club.—Match with Richmond Green Club, at Richmond.—Junior Chess and Draughts Club, at 8.—Concert in Queen's Hall, at 8.
- SUNDAY, May 18th.—Organ Recitals, at 12.30, 4, and 8.—Library open from 3 till 10, free.
- MONDAY, May 19th.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.
- TUESDAY, May 20th.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.—Chess Club Practice, at 7.—Orchestral Society.—Rehearsal, at 8.—Choral Society.—Rehearsal, at 8.—Shorthand Society.—Weekly Meeting, at 8.
- WEDNESDAY, May 21st.—Library open from 10 to 5 and from 6 to 10, free.—Newspapers may be seen from 8 a.m.—Junior Chess and Draughts Club, at 8.—Entertainment by Black Eagle Minstrel Troupe, in Queen's Hall, at 8.

Organ Recitals,

On SUNDAY NEXT, MAY 18th, 1890, IN THE QUEEN'S HALL, AT 12.30 AND 8 O'CLOCK.

ORGANIST—MR. B. JACKSON, F.C.O., Organist to the People's Palace.

At 4 o'clock, Organ Recital and Sacred Songs.

ADMISSION FREE.

Notes of the Week.

ANOTHER volume of the Journal opens with this number. We anticipate the record of many pleasant gatherings, social and educational. We are so full of educational interest, that we must not be tempted to forget the social side of our life, with its pleasures and obligations. The nooks and corners of a busy life are best filled with kindly intercourse and happy interchange of ideas. We look upon our Social-rooms as the nucleus of the recreative side of our life here. We are brought together by many different branches of work, and we need these social gatherings to bind us more closely in common interests and aims.

THE new volume starts with one of Edgar Poe's stories. This is delightful, for we shall be thrilled at every page. We don't read his stories often now, being so occupied with the sensational literature of the day; but no one has given us such rare imaginative tales as Poe. He has probably dared a great deal more, and ventured further into the realms of fancy than any more recent writer, and there is no such dealer in mystery. Just try reading one of his most exciting tales between one and two o'clock in the morning, alone, by the light of a solitary candle, and you will perhaps experience some of the power of his weird imagination.

THERE is an article in one of the daily papers headed "Classes before Breakfast." It sounds rather like a dose, and on investigation proves to be a large one, comprising in its mixture French, German, arithmetic, book-keeping, type writing, shorthand, etc., all to be taken early! This has been provided by the Polytechnic Institute for the English clerk before breakfast. Has the English clerk an abnormally healthy digestion that he can begin the day at seven o'clock in the morning with a bill of fare of this sort? Rising even before the lark or the early worm to make his way from such remote districts as Highgate, Hornsey, Stroud Green, Shepherd's Bush, or Brixton. Either the digestion is faultless, or the soul of the clerk is really heroic. The early morning hours in the summer are idyllic, as we all know, and inspire some of the laziest of us to turn out a little earlier, but there are dull, raw, damp, foggy, dark, cold mornings, which can only be faced with determined courage. It is to be hoped that the attendance of the early classes will give time for pleasant recreation in the evenings, and that no one will attempt to burn the candle at both ends, although, as the student gravely remarked in reply to his friend's remonstrance, "that is the only way to make ends meet."

MR. JOHN BARTER has just written a delightful and wonderful book, setting forth a system which, if duly practised, will enable us to acquire a prodigious memory, and learn any language, ancient or modern, with perfect ease. In fact, there will be little left to learn, except Mr. Barter's system, for if we follow out his course of instruction, it will be next to impossible, he tells us, to forget anything. We must be careful what we hear or read ever after, as we shall be unable to help remembering. We have to learn the "principle of association." For instance, in studying the French language we are sure to come early upon such a word as "chapeau," meaning a hat. Now, after reading Mr. Barter's book, we find the obvious mistake is to try and learn the word "chapeau" without any further trouble. The word he insists must be brought back to the memory of some association. What is the nearest sound in English? "Chap

oh!" of course (never mind the pronunciation). But how remember "chap oh!"? "Think of a small boy wearing a tall hat, and wonder." Some such system as this has been originated in the minds of very young students. We have known it fail. Perhaps the soundest piece of advice is how not to lose an umbrella. We felt any system that could secure to us our umbrella would be invaluable, and must be studied at once. The advice is startling in its bold simplicity. "Don't let go of it."

I SUPPOSE we have all been looking at the designs for the new Tower of London, which have been placed in the Queen's Hall, and will be on view till Friday. There seems to be a great deal to be taken into consideration in choosing such a building. From the designs submitted, it would appear that the architect and the engineer must combine their qualities to produce such a model as shall fulfil all requirements, for it must be pleasing to the eye, and yet capable of employing the most skilful machinery within. Which did you like best? It will be interesting to see which one will be finally chosen. It was delightful to be able to see the designs so easily. The mountain came to Mahomet this time.

THE proposed Tower promises to have a very different history to the old Tower of London. No dungeons, no State criminals, no gloomy records of languishing captives, no terrible torture chamber here. There will be dancing and singing, and sightseeing and merrymaking in the new Tower. Is it an outcome of the times, as was the old, solid, massive Tower? Is it to be an emblem of peace and prosperity? Or is it the sign of a luxurious age? These are questions we may find difficult to answer all at once!

L. M. H. C.

Palace Notes.

Next Wednesday, May 21st, will be the date of a capital Entertainment by the Black Eagle Minstrel Troupe in the Queen's Hall.

SCIENCE AND ART EXAMINATIONS.

Thursday, 15th, Paintings in Monochrome, 6 to 10; and Magnetism and Electricity, 7 to 10, in the Exhibition-buildings.

Friday, 16th, 7 to 10, Sound, Light, and Heat, in Exhibition-buildings.

Saturday, 17th, 6 to 10, Practical Plane and Solid Geometry.

Tuesday, 20th, 7 to 10, Mathematics, stages 4 and 5, in No. 1 Class-room, Technical Schools.

So far the attendances at the Examinations have been very good, and will beat last year's record; Students are again urged to be in their places a quarter of an hour before the time for beginning.

The designs submitted in competition for the proposed great London Tower are now on view free in the Queen's Hall, and thousands are flocking to examine them.

No arrangements have as yet been made for the Summer Trip, but parties of our Students may take a seaside holiday at the Isle of Wight, the inclusive charge being 15s. per week, including board, lodging, and attendance, if sufficient names are given in. Applications and suggestions should be made to Mr. Osborn.

Reviews.

Memorie d'un Fanciullo, Il Cappellano Della Rovella, di Giulio Carcano. Edited by the Rev. A. C. Clapin, M.A. Biblioteca Italiana, Librairie Hachette et Cie.

This is a capital specimen of the excellent aids to the study of foreign languages now being issued by Messrs. Hachette. We do not know whether many of our Students are interested in Italian, but if so, they will find excellent reading, carefully helped with notes, in this edition of two of the shorter stories of Giulio Carcano.

Society and Club Notes.

[Club announcements should reach the Sub-Editor, if possible, early on Monday morning. Monday evening is the very latest time for their receipt with any probability of publication in the following issue.]

PEOPLE'S PALACE CRICKET CLUB.

PEOPLE'S PALACE v. ST. LUKE'S.

This match was played on the ground of the St. Luke's last Saturday, and ended in a victory for the home team by 22 runs. Following are the scores and bowling analysis:—

PEOPLE'S PALACE.		ST. LUKE'S.	
L. Goldberg b Harvey .. 0	Stone st Carter b Goldberg .. 19	T. Carter lbw, b Harvey .. 7	Lindsay b Bowman .. 18
A. Bowman b Gibson .. 5	Gibson c and b Bowman .. 1	Brackley run out .. 4	Walton run out .. 0
C. Bowman b Harvey .. 4	Gooch c and b Goldberg .. 0	F. Hunter c Lindsay b Harvey .. 1	Crittenden b Bowman .. 1
J. Munro b Harvey .. 1	Harvey not out .. 0	Phillips b Gibson .. 0	Parkinson c Carter b Bowman .. 5
Williamson b Gibson .. 0	Hills run out .. 0	Shepherd b Gibson .. 6	Chilton b Bowman .. 1
Bolton not out .. 7	Glover c Bowman b Goldberg .. 3	Extras .. 2	Extras .. 3
Total .. 33	Total .. 55		

BOWLING ANALYSIS.

	Overs.	Mdns.	Runs.	Wkts.
Goldberg ..	12.2	5	19	3
Bowman ..	12	3	33	5

Next Saturday we go to Richmond to play the Richmond Green. The following will represent the People's Palace:—W. Goodwin, L. Goldberg, T. Carter, C. A. Bowman, F. Hunter, J. Munro, F. Knight, Francis, W. Everson, A. Wainman, A. Bowman (Capt.). Reserves—G. Sheppard, Williamson, and Phillips. Match to commence at 3 o'clock sharp. All the Members are requested to be at Broad Street to catch the 2.8 train.

T. G. CARTER, Hon. Sec.

PEOPLE'S PALACE TENNIS CLUB.

The tennis courts at the back of the old School-buildings are open every evening, at 6.30, and on Saturday afternoons, at 3 o'clock, for the use of the Members. We hope to commence next week on the tennis ground at Victoria Park. A few more Members are required. Application for membership can be made any evening at the tennis courts.

JOHN FORD.

PEOPLE'S PALACE SHORTHAND SOCIETY.

This Society will in future meet on Tuesday instead of Monday, at 8.15. Members are asked to return all books belonging to the library as soon as possible, for the purpose of stamping and re-numbering. Gentlemen wishing to join the Society can obtain all information by applying to the Hon. Sec., 18, Spey Street, Bromley-by-Bow.

T. W. MORETON, Hon. Sec.  
W. G. COLLINS, Hon. Lib.

PEOPLE'S PALACE RAMBLING CLUB.

On Saturday last, the 10th inst., eight Members of this Club rambled from Greenwich to Eltham Palace, Kent. No doubt a larger number would have turned up but for the uncertainty of the weather, which fortunately for those who did ramble kept bright and fine. The walk was one of pleasing variety. Entering the Park, we passed Observatory Hill, crossed Blackheath, which was swarming with cricketers, and along a lane leading to Morden College, which was built A.D. 1695, and is now a retreat for aged merchants. From here across country is exceedingly pleasant, where there are many pretty field paths, quiet shady lanes, and fine views. After about four-and-a-half miles walk we reached Eltham, and had tea, which we were thoroughly prepared for. The village is very pretty and rural. Here are still standing the remains of the royal residence of the Kings of England, from Henry III. to Henry VIII.; of this once vast pile, only the banqueting hall remains, except scattered fragments. Henry III. first resided in the palace in 1269, but the building was erected some time before that date. Journeying on to Lee, through sunlit paths, under the green trees, where the birds were singing merrily, we at last arrived again at Blackheath, and from Greenwich Pier crossed by the ferry into the Isle of Dogs. Next Saturday, a Conversazione will be held at the Guildhall to celebrate the Jubilee of the Penny Post, to which

the Ramblers hope to receive invitation. Please see notice-board this evening. The notice in last week's Journal, mentioning the 17th May as the date for the ramble to Wimbledon with the cricketers, was inserted in error, that ramble being arranged to take place on the last Saturday of this month, the 31st May.

A. MCKENZIE, } Hon. Secs.  
W. POCKETT, }

PEOPLE'S PALACE CHORAL SOCIETY.

Conductor—MR. ORTON BRADLEY.

TEST PIECES FOR COMPETITION.

- SOPRANO—Schubert's "Who is Sylvia?"
- CONTRALTO—Sterndale Bennett's "O God, Thou hast searched me out," from "The Woman of Samaria."
- TENOR—Handel's "Where'er you walk" (Semele).
- BASS—Lindpaintner's "The Standard Bearer."  
These songs may be sung in any key.
- Glee, "I saw lovely Phyllis," Pearsall (Novello, Ewer and Co.).

People's Palace Junior Section.

PEOPLE'S PALACE JUNIOR CRICKET CLUB.

On Saturday last we played the Eden C.C., at Wanstead, the result being a win for our opponents by 29 runs. The fielding of the Eden C.C. was very smart, and I trust Members will take advantage of the good example set them.

EDEN.	PEOPLE'S PALACE JUNIORS.
Dade .. .. . 0	Harvey .. .. . 2
Abbott .. .. . 6	Newport .. .. . 5
H. Lausignia .. .. . 6	Branch .. .. . 2
E. Lausignia .. .. . 17	Pocknell .. .. . 3
Stormer .. .. . 12	Winyard .. .. . 1
Jacobs .. .. . 0	Munns .. .. . 8
Saunders .. .. . 18	Fayers .. .. . 12
Jesson .. .. . 3	Smith .. .. . 0
Barcham .. .. . 1	Evans .. .. . 1
Morgrove not out .. .. . 2	Bradford not out .. .. . 1
Thompson .. .. . 3	Clark .. .. . 4
Extras .. .. . 2	Extras .. .. . 2
Total .. .. . 70	41

The result of our match on May 3rd was as follows:—Leyton Excelsiors, 63; People's Palace Juniors, 53; being a win for the Leyton Excelsiors by 10 runs.

T. J. SAUNDERSON, Hon. Sec.

BOYS' JUNIOR SECTION.

On Thursday, the 24th ult., the Sessional Examinations of the Writing and Arithmetic Classes were held. The results are given in the appended list. The attendance and conduct throughout the session has been uniformly good, and as a consequence the classes have made marked and steady progress. A brief retrospect of the work of the Junior Section Classes since their inception in the winter of 1888 presents many pleasing and interesting features, and bears excellent testimony to the benefit the Junior Section has been to those for whom it was designed. If the reasons for this great improvement be analysed, one cannot fail to see that the factor which has played a more important part perhaps than any other, is the gymnasium. In 1888 the classes began with as heterogeneous a collection of youths as could well be imagined. Truly, the boys were well intentioned, anxious for improvement, and good-hearted in the main, but their notions as to how their improvement was to be brought about were vague and shadowy, and the difficulties the teachers had to face were of no ordinary nature. Discipline was utterly unknown to the majority of the pupils of those days, and the idea apparently uppermost in many of their minds was that they had come to the classes to thoroughly enjoy themselves, and that they would betray their trust if they did not, entirely succeed in this most laudable object. Gradually, however, and quietly, and by slow degrees all this has been changed, the finer natures of the good boys have reacted upon their rougher colleagues; the corners have been rounded off, the rough diamonds received a polish, until at the present time, after a lapse of but two sessions, my words can be only those of unqualified praise. When one considers what a hard, dreary, monotonous daily round many of the boys travel, cooped up in close workrooms from early morn to late at night, and this at a period of life when the young spirit craves for light and air and freedom, do they not deserve the fullest praise for their diligence and perseverance? Are

they not entitled to all credit for the efforts they make to improve and elevate themselves? And is it not right that much should be done to encourage them to grow up good men, earnest members of society, doing their life's duty honestly, ungrudgingly, fearlessly, cultivating habits of self reliance, integrity, and true manliness?

WRITING EXAMINATION.

- Excellent—in order of merit—E. H. Bell, F. H. Fish, J. Tatchell, C. Munns.
- Good—in alphabetical order—A. J. Button, G. Clark, H. Dane, A. Dunsdon, C. Pollard, H. Schafer, A. Tufton.
- Fair—in alphabetical order—W. Howe, H. Lucking, B. Parker, W. Price, J. Randall, S. Williams.
- Two failures.

ARITHMETIC EXAMINATION.

- ADVANCED CLASS.—Excellent—in order of merit—H. T. Branch, A. S. Schafer.
- Good—in alphabetical order—E. Duffer, J. Jones, E. Reeves, T. Stark.
- Fair—E. Childs.
- ELEMENTARY CLASS.—Excellent—A. Sturdy.
- Fair—J. Y. Stark.

F. C. F.

The National Anti-Gambling League.

THE Earl of Aberdeen has consented to become President of the "National Anti-Gambling League" which has just been formed for the purpose of offering a strenuous and uncompromising opposition to every form of betting and gambling, and of diffusing amongst young men and others wholesome information on the subject. Among those who are giving the new movement their cordial support are the Bishop of Wakefield, the Dean of Norwich, the Dean of Rochester, the Hon. and Rev. E. Carr Glyn, the Rev. Preb. Gordon Calthrop, the Rev. Canon Barker, the Rev. J. E. C. Weldon (Master of Harrow), the Rev. Hugh Price Hughes, the Rev. J. W. Horsley, Dr. Clifford, Dr. Thain Davidson, the Rev. W. J. Dawson, Mr. George Williams, etc. Leaflets and booklets are being widely distributed, and lectures and public meetings are to be organised in all parts of the country. It is proposed to hold next year, simultaneous demonstrations all over London on the eve of the Derby. Members of the League pay a subscription of 1s. a year, and sign a pledge promising to abstain from all kinds of betting and gambling, and to do their utmost to develop a more healthy public opinion on the subject. The Hon. Secretaries are the Rev. J. S. Barrass and F. A. Atkins, Esq., 9, Paternoster Row, E.C.

BIG GUNS.

THE heaviest gun we possess, which weighs 111 tons, has an extreme range of fourteen miles. The length of this gun is forty-four feet, its projectile weighs 1,800-lbs., and its powder charge 960-lbs. Every time it is fired an expenditure of £100 is incurred. A shot from one of Longridge's wire guns, lately tried at Shoeburyness, at a high elevation attained the distance of twelve miles. Two monster Russian guns were sent in December last year to Sebastopol to be placed in the new ironclad *Sinope*, the range of which is said to be twenty versts, or over thirteen miles. The official description which gives this information states that they are twelve inch pieces, weighing fifty tons, and throwing projectiles of nearly half a ton weight, the powder charge being 270-lbs. The fire of guns at such long ranges can only be directed by a map, the object being out of sight; two men suffice for each gun, as they are worked by hydraulic machinery. The extreme range of the heaviest gun at the commencement of the present century was 2,000 yards, or a little over one mile.

- CIVILIAN: "What do you think of the new dynamite cruiser, 'the Vesuvius'?"
- Naval Officer (dubiously): "Well, she's a pretty fair sort of a vessel."
- Civilian (testily): "Why, what's the matter with her?"
- Naval Officer: "The cruiser is swift enough, and all that sort of thing, but I give you my word as a gentleman that her dancing accommodations are simply wretched, shamefully inadequate."

Library Additions.

- "Choose well, your choice is brief and yet endless."—Goethe.
- Students of history, which Carlyle says "is highly expedient to go into, to enquire what has passed before us on this earth, and in the Family of Man," will rejoice in the Story of the Nation's Series, 22 vols., as follows:—*Alexander's Empire, Ancient Egypt, Assyria, The Barbary Corsairs, Carthage, Chaldea, Early Britain, Germany, The Hansa Towns, Holland, Hungary, Ireland, The Jews, Media, Medieval France, The Moors in Spain, Persia, Phœnicia, Rome, Russia, The Saracens, Turkey.*
- Readers who are fond of Topography will revel in the following vols.:—
- Timbs (John).—*Curiosities of London.*
- "—*Romance of London*: 2 vols. Vol. I., Historical; vol. II., Supernatural.
- Walford (Edward).—*Londoniana*; 2 vols.
- Taylor (Tom).—*Leicester Square; Its Associations and its Worthies.*
- Doran (Dr. John).—*Memories of our Great Towns.*
- Readers of Travel and Geography will find a pleasing variety in the following:—
- Curzon (Hon. George N.).—*Russia in Central Asia*, with maps and illustrations; mainly about the Transcaspian Railway.

THE RUSSIANS OF TO-DAY.

- Boulger (Demetrius Charles).—*England and Russia in Central Asia*; 2 vols., with map and appendices.
- Meignan (Victor).—*Over Siberian Snows*; translated from the French by William Cown, with map and illustrations.
- Prood (Captain John).—*A Journey to the Source of the River Ocas*; with illustrations and map.
- Laveleye (Emile de).—*The Balkan Peninsula*; with maps; translated from the French by Mrs. Thorpe.
- Evans (Arthur J.).—*Through Bosnia and The Herzegovina on Foot.*
- Thielmann (Baron Max Von).—*Journey in the Caucasus, Persia, and Turkey in Asia*; 2 vols., with maps and illustrations. Translated by Charles Heneage.
- Rae (Edward).—*The White Sea Peninsula*; with illustrations.
- Gilder (William).—*Ice Pack and Tundra*. Illustrated.
- Gillmore (Parker).—Several vols. of his noted books of travel.
- Captain Cook's Voyages round the World.
- Cities of the World; 3 vols., profusely illustrated.
- Pictorial Africa.—A book which should be of interest just now to students of the Dark Continent.
- Gallenga (A.).—*A Summer Tour in Russia.*
- Art Students should note the following:—
- Ruskin (John).—*Elements of Drawing.*
- "—*Lectures on Architecture and Painting.*
- "—*The Seven Lamps of Architecture.*
- Wornum (R. N.).—*Analysis of Ornament.*
- Jones (Owen).—*Grammar of Ornament.*
- Racuel (A.).—*Polychromatic Ornament.*

TRANSLATED FROM THE FRENCH.

- Moody (F. W.).—*Lectures and Lessons on Art.*
- Marshall (John).—*Anatomy for Artists.*
- The Description of the Elgin Marbles*, in the British Museum, with beautifully engraved plates, each in itself a work of art, contained in 11 vols.
- Musical Students will find the undermentioned books of great assistance:—
- Grove (Sir George).—*Dictionary of Music and Musicians*, in 4 vols.
- Macfarren (Professor).—*Counterpoint, Six Lectures on Harmony.*
- Those who delight in Gymnastics or Athletics may consult with advantage:—
- Blaikie (William).—*How to Get Strong.*
- Lemaire (E. Ferdinand).—*Indian Clubs and How to Use Them.*
- Maclaren (Archibald).—*Physical Education.*
- Walker.—*Manly Exercises.*
- All of which are acknowledged as good reference books.
- Of the Badminton Library Series, we have:—*Cycling*, 1 vol., *Boating*, 1 vol., *Fishing*, 2 vols., *Shooting*, 2 vols.; and we hope to complete this valuable series at an early date.
- To the Natural History Collection we have added:—
- Notes on Collecting and Preserving Natural History Objects*; a summary of the Essays in "Hardwicke's Science Gossip."
- This book, with occasional visits to the Natural History, British Museum, South Kensington, will be of great use to collectors. I may here state that we have all the published Guide Books to the Natural History Museum.
- The *Dictionary of National Biography* is completed up to date, namely, vol. XXII., containing Glover and Gravet; the other vols. will be added as published.
- Theological works well worth perusal are those of—
- Momerie (Professor A. W.).—9 vols.; as follows:—*Agnosticism, The Basis of Religion, Belief in God, Church and Creed* (the last work), *Defects of Modern Christianity, etc., Inspiration; and other Sermons, The origin of Evil, Personality, Preaching and Hearing.*
- The new light thrown on old subjects by this author will reward the reader of his works.

Renan (Ernest).—The well-known works of this author translated from the French:—*The Antichrist; The Apostles; The Book of Job; The Christian Cæsar; The Gospels; The Life of Jesus; Marcus Aurelius; Saint Paul.*

Then for lighter literature let me recommend:—

Church (A. W.).—*Stories from the Classics.* All the dear old mythological stories regarnished.

The First Bargain of a Business Man.

THE late Mr. John Rylands, of Manchester, would often humorously narrate the history of his first bargain. One day, soon after he had left school, in passing through a street of St. Helens, his eye was caught by an auctioneer's placard announcing the sale of the stock-in-trade belonging to the father of one of his schoolfellows. He went in to see what was going on; and, as he had saved a little pocket money, he bid for one of the lots, a drawer full of trinkets, which was knocked down to him at a low price. These, on reaching home, he found to consist of different pieces of jewellery, much tarnished and corroded. He pulled them to pieces, cleaned and polished them, and sold them separately, realising a good profit.

A former nurse of Mrs. Rylands heard of the lad's successful purchase, and being herself with her family very handy at the loom, said to him—

"Supposing, Master John, you spend this money in a little yarn, and let us weave it for you." This was done, the calicoes were returned "beautifully woven," were soon sold, and all concerned made a handsome profit. The process was repeated on a continually enlarging scale, for about two years, and the youth, who meantime was diligently helping his father, became already a miniature capitalist.

At the expiration of this time his eldest brother Joseph proposed to join him, and the two lads initiated business on their own account, John undertaking the post of traveller. The father, himself a shrewd and capable man of business, perceived what his sons were doing on their own account, and proposed to join in partnership with them, contributing a larger capital than they could muster. Thus the well-known firm was originated.

Mysterious Neighbours.

OUR large cities are thronged with people whose lives, apparently open enough, teem with mystery and crime. As an instance of this, I have lived on the next floor below a quiet couple for the past year, and my family, consisting of two maiden sisters and a niece, have had considerable intimacy with them, and found them very communicative, which, by the way, is the right course to stifle curiosity, for we must expect that as soon as we have anything to conceal every one will endeavour to find out what it is.

This couple seemed to have nothing to conceal, but told, in an open way, all about themselves. The man was generally away all night, and consequently slept all day, or if he did go out confined his travels to the neighbourhood. This was explained by saying that he was a watchman at the Custom House. The woman absented herself for several hours in the middle of the day, which she called taking a walk. A few weeks ago, one evening they were missing, and a woman who took possession of their apartments by authority declared that she knew nothing of their whereabouts whatever.

The next thing was the appearance of detectives from headquarters, who wanted the man as a member of a noted gang of burglars which the police have just settled to break up, while the woman has long been known as one of the most skilful shoplifters. They knew it was time for them to go, and they went nobody knows where. A man about town meets everywhere mysterious men who live like princes, but never do anything. They lounge about hotels and drinking bars. They are professional blackmailers and committers of unpunishable misdemeanours, unless some day their victims take a fancy to kick them.

ERATE customer, rushing into brushmaker's: "Look here! these brushes are a swindle; they are not ivory at all, they are imitation."

"I can't help it, sir. I import my ivory direct from Ceylon, and the only explanation that I can give is that the elephants have taken to wearing false tusks."

## The Forth Bridge.

WE are indebted for the following notes of the interesting lecture recently delivered, in the Queen's Hall, by Professor Kennedy, to Mr. L. Greenwood, one of our Students. Considerations of space have, however, necessitated some condensation. Professor Kennedy, in the course of his remarks, explained that when an engineer wishes to carry a bridge over a river, he has practically three ways of doing it; and there have always been three ways, from the earliest times.

The first way was one which might be called the "tree trunk" fashion of getting across—that is to say, if you could cut down a tree which was longer than your river was broad, and could get that tree thrown across the river, of course you had a bridge. Now, the tree trunk, which (continued Professor Kennedy) I suppose is the earliest kind of bridge that it would occur to anybody to make, with the advent of the nineteenth century, was made of iron or steel, and became in its latest form what we now call a lattice-girder bridge, or a girder bridge of some type or other, which you have plentifully exemplified all over England—such a bridge as carries the railway across the road at Bow.

The second way of getting across the stream was by means of a rope. If a rope of any kind—whether made of strips of leather or strips of bark—was hung across a little valley from one side to another, it was clear that by the aid of some kind of a cradle or some platform hung on to the rope, persons might cross dryshod—perhaps a precarious way of getting across, but at any rate a simple one. Now the primitive rope has developed into the suspension bridge, in which, instead of a rope of strips of bullock's hide, we have a rope of steel-wire cables, or links, such as Lambeth Bridge and others higher up the Thames.

Thirdly, and oddly enough, among the very first types of bridges of which we have any record, or of which travellers have found in what we call the savage regions of the world, there have been found bridges whose latest development is what is now known as the "cantilever bridge," the type of bridge that Sir J. Fowler and Sir B. Baker have put over the Forth.

Now, it is quite possible to put up a suspension bridge of a third of a mile span without any serious difficulty. There is a magnificent bridge of about that size across the East River, at New York, from New York to Brooklyn. But such a bridge is hardly deep or thick enough to take the enormous strain of an English express train with two or three hundred tons flying over the whole affair at fifty miles an hour. There, therefore, only remains the third type of bridge, the cantilever. In order to explain what I mean by the cantilever bridge, I will show you with my first view a photograph, not taken from Nature, of a couple of bridges of this kind, which are credibly stated to have been found in certain parts of the world.

The peculiarity of the cantilever bridge is that it is composed of three parts. The central part is a girder, that is to say, the "tree trunk."

Some of our ancestors, when they had a river to cross which was somewhat wider than their longest tree-trunk, built up from each bank an overhanging beam, which an engineer calls a "cantilever," and by that means shortened the distance between the sides, so that it became possible to bridge the remaining distance by a single trunk. In a case like this, we call this trunk a girder; and we call the two end brackets, the two cantilevers. The Canadian bridge of this type is a somewhat more precarious-looking thing than the one just mentioned, which is of Chinese origin. The cantilevers are built up by tree-trunks resting in some primitive fashion on hooked pieces of other trees, and in the centre stretches the central girder.

Let us consider one span of the Forth Bridge only, *i.e.*, the distance between the piers. (The portion of the bridge immediately over the abutment is called a pier.) From each pier there projects a long cantilever, and the two together are joined by a girder about twice the length of one of the big girders of the Charing Cross Bridge. Now, in order to show the connection of the different parts, Sir B. Baker had an ingenious illustration made. Here are two men seated on two chairs, resting with all their weight on them exactly as the two piers rest upon the ground. Each man stretches out his arms in a fashion exactly corresponding with the top members of the cantilevers. From the side of the chair there stretches up a couple of rods which we call struts, each corresponding to the bottom members of the cantilevers. Joining these two at the other end is a seat on which rests a third party, whose weight represents the weight of a load upon the central girder. Now you may say that, if either of these two gentlemen were to let go their hold it would be very bad for the man in the centre, *i.e.*, if either of the top members were to break, the girder would tumble down; or if the stick were to snap in two it would be very uncomfortable for all parties concerned, because immediately the two hands would fall, as no man could hold out a weight at that distance from himself without some support. The men's arms are being held out by the weight, and we say that they are in tension; therefore, these top members of the bridge are in tension, *i.e.*, they are being pulled, whereas the two under rods are being pressed in, and the bottom members of the cantilever are similarly pressed in. At the end of one of the main supports of the bridge the end of the strut is tied down through a lot of bricks to a considerable weight. If these bricks were removed, the whole thing would topple over inwards.

Now I dare say the first thing that I ought to do before going further is to endeavour to give you some sort of idea of how big this bridge is.

The whole length of the steel portion is just over a mile, and each of its very long spans is nearly a third of a mile. There have been used no less than 51,000 tons of steel for this bridge and about eight millions of rivets. The surface of the bridge to be painted is about twenty-five acres; therefore, there are seventy-five acres to be painted, allowing for three coats of paint.

The wind pressure on the side of the bridge is calculated at 7,700 tons, or nearly 8,000 tons.

On the south side of the bridge the pier rests on a shallow part of the Forth at Queensferry.

In the middle of the Forth is the next pier and two half cantilevers. This middle pier rests upon an island called Inchgarvie. At this point of the structure, the rock on the island fortunately stood up well, so that the engineers could get a foundation at a reasonable depth.

Finally comes the Fife cantilever, on the north side.

Placing the Eiffel tower ignominiously on its side against the pier, its apex comes very closely to the middle of the span. It was hard enough to build the Eiffel tower when you had to climb straight up and had the ground below you. You can further imagine how much harder it would be to build six Eiffel towers each out into mid-air, horizontally, without any ground at all, which is what was done at the Forth Bridge.

One of the first things that have to be done to make a bridge like this is to make works to build it; and very extensive indeed were these works, schemed and managed by Sir W. Arrol, just on the other side of the River Forth.

The bridge required to have its foundations some sixty or seventy feet below the level of the water, and it was a question to find the best way of getting down to these depths. It was managed by means of what is called a *cassoon*. This you must imagine to be a huge cylinder which is to form the foundation of one of the corners of one of the piers of the Forth Bridge. This cylinder is made of steel, swelling out slightly, and then carried down parallel to the bottom. At the bottom, before being put down, it was filled partly with concrete, but there was a roof underneath it, high enough for men to work in, so that the whole thing formed a gigantic diving-bell. There were pipes with air-locks, which latter are made in the fashion of a canal lock, but men could go in and out, down ladders to the bottom, and here they could work in removing the rock from underneath the *cassoon*; and as they removed it, the *cassoon* sank down and down, the rock that they removed being always carried up through the tubes. As the men were some thirty or forty feet below the water level, of course they had to work in compressed air, and the air had to be pumped in to such a pressure as to prevent the water running off from underneath. They therefore worked in a pressure of air some two or three times as great as that which we breathe, so that the duration of a spell of work was, of course, not very long.

However, perhaps the more interesting part is that of the building above water.

From the masonry on the top of the *cassoons* have to go up the great tubes of the pier, and from these the tubes of the cantilevers project. There are about forty-two miles of steel grooved plates, all of which have to be riveted up in place, and what was done was this. A big platform was made, big enough in itself to make a decent bridge in any other part of the world, and that platform began right down at the bottom, and gradually it was carried upwards, always building from it a little bit of the tube, and as the tubing was built higher and higher up, the platform was jacked up, and so the work of building and raising went on continuously, six feet at a time.

They cannot, however, get all the tubes riveted up as they go on. This is done from a cage which carries a hydraulic riveting machine, which is slipped round a tube, and the cage is raised with the platform, so that when the platform has been raised twenty feet, the cage follows on.

As to the bottom members of the cantilevers, when it has been built out so far that it can support its own weight no longer, to hold it up it has to be tied back, not with a rope, but enormous steel plate ties.

The mean railway level in this bridge is 156 feet above the water, so that there has to be a big viaduct taken from the railway level, a long way in shore, until the rising bank is 156 feet high.

The height of the bridge from the water level to the top is 350 odd feet.

FRIEND: "Do you find it hard to write so much?"  
 Author: "Oh, no. One idea suggests another, you see."  
 "Yes, I understand; but what perplexes me is, where the first idea comes from."

BUSINESS MAN, in the City: "Can't you hurry up that steak a little, waiter? I've been waiting over half-an-hour."  
 Business Man, at home: "What in thunder is the matter that we don't have dinner? I've been sitting here like a lump on a log for fully five minutes."

# PROGRAMME

OF

## Third Annual Gymnastic Display & Assault-at-Arms,

TO TAKE PLACE

In the GYMNASIUM, on Wednesday, May 14th, 1890.

Under the Management of Mr. H. H. BURDETT, Director People's Palace Gymnasium, assisted by Mr. D. M. NELSON and Mr. C. WRIGHT, Assistant Instructors People's Palace Gymnasium.

Presentation of Prizes by Col. G. M. ONSLOW, H.M.I.G.

MUSIC BY THE PEOPLE'S PALACE MILITARY BAND.

Conductor, Mr. A. ROBINSON, Late Prince of Wales's 3rd Dragoon Guards.

## EVENTS.

### PART I.

- I. BAR-BELLS AND FIGURE MARCHING.—By Leaders and Students, also Lads of the Junior Section.
- II. PARALLEL BARS.—LEADER, D. M. Nelson.  
C. Pugh, J. H. Hulls, W. Chapman, W. T. Pentney, H. R. Jones, A. C. Leach, H. H. Burdett.
- III. BOXING.—H. Dean, Captain People's Palace Boxing Club *versus* G. Murdoch.
- IV. FREE EXERCISES.—By Leaders and Students, also Lads of the Junior Section.
- V. BAYONET *v.* BAYONET.—Leaders E. Nykerk *v.* J. H. Hulls.
- VI. PRESENTATION OF PRIZES to the winners of the Annual Gymnastic, Fencing, Single-Stick, and Indian Club Competition, by COLONEL G. M. ONSLOW.  
 Winners of Gymnastic Competition:—1st, W. T. Pentney; 2nd, H. R. Jones; 3rd, T. Burns; 4th, A. C. Leach. Novices:—1st, T. Billett; 2nd, R. Hyslop.  
 Winner of Fencing Competition:—J. McDougall.  
 Winner of Single-Stick Competition:—Leader F. A. Hunter.  
 Winner of Indian Club Competition:—F. W. Chipps.

### PART II.

- VII. DUMB-BELL EXERCISE.—By same as performed Bar-Bells.
- VIII. HORIZONTAL BAR.—LEADER, H. H. Burdett.  
W. T. Pentney, H. R. Jones, A. C. Leach, C. Pugh, W. Chapman, J. H. Hulls, D. M. Nelson, C. Wright, Clown, G. Kitchener.
- IX. FENCING.—H. H. Burdett *v.* D. M. Nelson.
- X. BOXING.—C. J. Funnell *v.* A. Watts.
- XI. VAULTING HORSE.—LEADER, C. Wright.  
Leaders of Senior and Junior Sections. Clown, G. Kitchener.
- XII. BLACK AND WHITE BOXING.—G. Kitchener (Black) *v.* A. C. Leach (White).
- XIII. RUNNING MAZE.—LEADER, H. H. Burdett.

THE  
Unparalleled Adventure of one Hans Pfaall.

By EDGAR ALLAN POE.

With a heart of furious fancies,  
Whereof I am commander,  
With a burning spear and a horse of air,  
To the wilderness I wander.  
Tom O'Bedlam's Song.

BY late accounts from Rotterdam, that city seems to be in a high state of philosophical excitement. Indeed, phenomena have there occurred of a nature so completely unexpected—so entirely novel—so utterly at variance with preconceived opinions—as to leave no doubt on my mind that long ere this all Europe is in an uproar, all physics in a ferment, all reason and astronomy together by the ears.

It appears that on the — day of — (I am not positive about the date) a vast crowd of people, for purposes not specifically mentioned, were assembled in the great square of the Exchange in the well-conditioned city of Rotterdam. The day was warm—unusually so for the season—there was hardly a breath of air stirring; and the multitude were in no bad humour at being now and then besprinkled with friendly showers of momentary duration, that fell from large white masses of cloud profusely distributed about the blue vault of the firmament. Nevertheless, about noon, a slight but remarkable agitation became apparent in the assembly; the clattering of ten thousand tongues succeeded; and, in an instant afterwards, ten thousand faces were upturned towards the heavens, ten thousand pipes descended simultaneously from the corners of ten thousand mouths, and a shout, which could be compared to nothing but the roaring of Niagara, resounded long, loudly, and furiously through all the city and through all the environs of Rotterdam.

The origin of this hubbub soon became sufficiently evident. From behind the huge bulk of one of those sharply-defined masses of cloud already mentioned was seen slowly to emerge into an open area of blue space, a queer, heterogeneous, but apparently solid substance, so oddly shaped, so whimsically put together, as not to be in any manner comprehended, and never to be sufficiently admired, by the host of sturdy burghers who stood open-mouthed below. What could it be? In the name of all the devils in Rotterdam, what could it possibly portend? No one knew; no one could imagine; no one—not even the burgomaster Mynheer Superbus Von Underduk—had the slightest clue by which to unravel the mystery; so, as nothing more reasonable could be done, every one to a man replaced his pipe carefully in the corner of his mouth, and maintaining an eye steadily upon the phenomenon, puffed, paused, waddled about, and grunted significantly—then waddled back, grunted, paused, and finally—puffed again.

In the meantime, however, lower and still lower towards the goody city came the object of so much curiosity, and the cause of so much smoke. In a very few minutes it arrived near enough to be accurately discerned. It appeared to be—yes! it was undoubtedly a species of balloon; but surely no such balloon had ever been seen in Rotterdam before. For who, let me ask, ever heard of a balloon manufactured entirely of dirty newspapers? No man in Holland certainly; yet here, under the very noses of the people, or rather at some distance above their noses, was the identical thing in question, and composed, I have it on the best authority, of the precise material which no one had ever before known to be used for a similar purpose. It was an egregious insult to the good sense of the burghers of Rotterdam. As to the shape of the phenomenon, it was even still more reprehensible. Being little or nothing better than a huge fool's-cap turned upside down. And this similitude was regarded as by no means lessened, when, upon nearer inspection, the crowd saw a large tassel depending from its apex, and, around the upper rim, or base of the cone, a circle of little instruments, resembling sheepbells, which kept up a continual tinkling to the tune of Betty Martin. But still worse. Suspended by blue ribbons to the end of this fantastic machine, there hung, by way of car, an enormous drab beaver hat, with a brim superlatively broad, and a hemispherical crown with a black band and a silver buckle. It is, however, somewhat remarkable that many citizens of Rotterdam swore to having seen the same hat repeatedly before; and indeed the whole assembly seemed to regard it with eyes of familiarity; while the vrow Grettel Pfaall, upon sight of it, uttered an exclamation of joyful surprise, and declared it to be the identical hat of her good man himself. Now, this was a circumstance the more to be observed, as

Pfaall, with three companions, had actually disappeared from Rotterdam about five years before, in a very sudden and unaccountable manner, and, up to the date of this narrative, all attempts at obtaining intelligence concerning them had failed. To be sure, some bones, which were thought to be human, mixed up with a quantity of odd-looking rubbish, had been lately discovered in a retired situation to the east of the city; and some people went so far as to imagine that in this spot a foul murder had been committed, and that the sufferers were in all probability Hans Pfaall and his associates. But to return.

The balloon (for such no doubt it was) had now descended to within a hundred feet of the earth, allowing the crowd below a sufficiently distinct view of the person of its occupant. This was, in truth, a very singular somebody. He could not have been more than two feet in height; but this altitude, little as it was, would have been sufficient to destroy his equilibrium, and tilt him over the edge of his tiny car, but for the intervention of a circular rim reaching as high as the breast, and rigged on to the cords of the balloon. The body of the little man was more than proportionally broad, giving to his entire figure a rotundity highly absurd. His feet, of course, could not be seen at all. His hands were enormously large. His hair was grey, and collected into a queue behind. His nose was prodigiously long, crooked, and inflammatory; his eyes full, brilliant, and acute; his chin and cheeks, although wrinkled with age, were broad, puffy, and double; but of ears of any kind there was not a semblance to be discovered upon any portion of his head. This odd little gentleman was dressed in a loose surtout of sky-blue satin, with tight breeches to match, fastened with silver buckles at the knees. His vest was of some bright yellow material; a white taffety cap was set jauntily on one side of his head; and, to complete his equipment, a blood-red silk handkerchief enveloped his throat, and fell down, in a dainty manner, upon his bosom, in a fantastic bow-knot of supereminent dimensions.

Having descended, as I said before, to about one hundred feet from the surface of the earth, the little old gentleman was suddenly seized with a fit of trepidation, and appeared disinclined to make any nearer approach to terra firma. Throwing out, therefore, a quantity of sand from a canvas bag, which he lifted with great difficulty, he became stationary in an instant. He then proceeded in a hurried and agitated manner, to extract from a side pocket in his surtout a large morocco pocket-book. This he poised suspiciously in his hand; then eyed it with an air of extreme surprise, and was evidently astonished at its weight. He at length opened it, and, drawing therefrom a huge letter sealed with red sealing-wax and tied carefully with red tape, let it fall precisely at the feet of the burgomaster Superbus Von Underduk. His Excellency stooped to take it up. But the aeronaut, still greatly discomposed, and having apparently no further business to detain him in Rotterdam, began at this moment to make busy preparations for departure; and, it being necessary to discharge a portion of ballast to enable him to reascend, the half dozen bags which he threw out, one after another, without taking the trouble to empty their contents, tumbled, every one of them, most unfortunately, upon the back of the burgomaster, and rolled him over and over no less than half a dozen times, in the face of every individual in Rotterdam. It is not to be supposed, however, that the great Underduk suffered this impertinence on the part of the little old man to pass off with impunity. It is said, on the contrary, that during each of his half dozen circumvolutions, he emitted no less than half a dozen distinct and furious whiffs from his pipe, to which he held fast the whole time with all his might, and to which he intends holding fast (God willing) until the day of his decease.

In the meantime the balloon arose like a lark, and, soaring far away above the city, at length drifted quietly behind a cloud similar to that from which it had so oddly emerged, and was thus lost for ever to the wondering eyes of the good citizens of Rotterdam. All attention was now directed to the letter, the descent of which, and the consequences attending thereupon, had proved so fatally subversive of both person and personal dignity to his Excellency Von Underduk. That functionary, however, had not failed, during his circumgyratory movements, to bestow a thought upon the important object of securing the epistle, which was seen, upon inspection, to have fallen into the most proper hands, being actually addressed to himself and Professor Rubadub, in their official capacities of President and Vice-President of the Rotterdam College of Astronomy. It was accordingly opened by those dignitaries upon the spot, and found to contain the following extraordinary, and indeed very serious communication:—

To their Excellencies VON UNDERDUK and RUBADUB, President and Vice-President of the States College of Astronomers, in the City of Rotterdam.

Your Excellencies may perhaps be able to remember an humble artizan, by name Hans Pfaall, and by occupation a mender of bellows, who, with three others, disappeared from Rotterdam, about five years ago, in a manner which must have been considered unaccountable. If, however, it so please your Excellencies, I, the writer of this communication, am the identical Hans Pfaall himself. It is well-known to most of my fellow-citizens, that for the period of forty years I continued to occupy the little square brick building, at the head of the alley called Sauerkraut, in which I resided at the time of my disappearance. My ancestors have also resided therein time out of mind—they, as well as myself, steadily following the respectable and indeed lucrative profession of mending of bellows: for to speak the truth, until of late years, that the heads of all the people have been set agog with politics, no better business than my own could an honest citizen of Rotterdam either desire or deserve. Credit was good, employment was never wanting, and there was no lack of either money or good will. But, as I was saying, we soon began to feel the effects of liberty, and long speeches, and radicalism, and all that sort of thing. People who were formerly the very best customers in the world, had now not a moment of time to think of us at all. They had as much as they could do to read about the revolutions, and keep up with the march of intellect and the spirit of the age. If a fire wanted fanning, it could readily be fanned with a newspaper; and as the government grew weaker, I have no doubt that leather and iron acquired durability in proportion—for, in a very short time, there was not a pair of bellows in all Rotterdam that ever stood in need of a stitch or required the assistance of a hammer. This was a state of things not to be endured. I soon grew as poor as a rat, and having a wife and children to provide for, my burdens at length became intolerable, and I spent hour after hour in reflecting upon the most convenient method of putting an end to my life. Duns, in the meantime, left me little leisure for contemplation. My house was literally besieged from morning till night. There were three fellows in particular, who worried me beyond endurance, keeping watch continually about my door, and threatening me with the law. Upon these three I vowed the bitterest revenge, if ever I should be so happy as to get them within my clutches; and I believe nothing in the world but the pleasure of this anticipation prevented me from putting my plan of suicide into immediate execution, by blowing my brains out with a blunderbuss. I thought it best, however to dissemble my wrath, and to treat them with promises and fair words, until, by some good turn of fate, an opportunity of vengeance should be afforded me.

One day, having given them the slip, and feeling more than usually dejected, I continued for a long time to wander about the most obscure streets without object, until at length I chanced to stumble against the corner of a bookseller's stall. Seeing a chair close at hand for the use of customers, I threw myself doggedly into it; and, hardly knowing why, opened the pages of the first volume which came within my reach. It proved to be a small pamphlet treatise on Speculative Astronomy, written either by Professor Encke, of Berlin, or by a Frenchman of somewhat similar name. I had some little tincture of information on matters of this nature, and soon became more and more absorbed in the contents of the book—reading it actually through twice before I awoke to a recollection of what was passing around me. By this time it began to grow dark, and I directed my steps towards home. But the treatise (in conjunction with a discovery in pneumatics, lately communicated to me as an important secret, by a cousin from Nantz) had made an indelible impression on my mind; and as I sauntered along the dusky streets I revolved carefully over in my memory the wild and sometimes unintelligible reasonings of the writer. There are some particular passages which affected my imagination in an extraordinary manner. The longer I meditated upon these, the more intense grew the interest which had been excited within me. The limited nature of my education in general, and more especially my ignorance on subjects connected with natural philosophy, so far from rendering me diffident of my own ability to comprehend what I had read, or inducing me to mistrust the many vague notions which had arisen in consequence, merely served as a further stimulus to imagination; and I was vain enough, or perhaps reasonable enough, to doubt whether those crude ideas, which arising from ill-regulated minds, have all the appearance, may not often in effect possess all the force, the reality, and other inherent properties of instinct or intuition.

It was late when I reached home, and I went immediately to bed. My mind, however, was too much occupied to sleep, and I lay the whole night buried in meditation. Arising early in the morning, I repaired eagerly to the bookseller's stall, and laid out what little ready money I possessed in the purchase of some volumes of Mechanics and Practical Astronomy. Having arrived at home safely with these, I devoted every spare moment to their perusal, and soon made such proficiency in studies of this nature as I thought sufficient for the execution of a certain design which either the devil or my better genius had inspired me. In the intervals of this period, I made every endeavour to conciliate the three creditors who had given me so much annoyance. In this I finally succeeded—partly by selling enough of my household furniture to satisfy a moiety of their claim, and partly by a promise of paying the balance upon completion of a little project which I told them I had in view, and for assistance in which I solicited their services. By these means (for they were ignorant men) I found little difficulty in gaining them over to my purpose.

Matters being thus arranged, I contrived by the aid of my wife, and the greatest secrecy and caution, to dispose of what property I had remaining, and to borrow in small sums, under various pretences, and without giving any attention (I am ashamed to say) to my future means of repayment, no inconsiderable quantity of ready money. With the means thus accruing I proceeded to procure at intervals, cambric muslin, very fine, in pieces of twelve yards each; twine; a lot of the varnish of caoutchouc; a large and deep basket of wicker-work, made to order; and several other articles necessary in the construction and equipment of a balloon of extraordinary dimensions. This I directed my wife to make up as soon as possible, and gave her all the requisite information as to the particular method of proceeding. In the meantime I worked up the twine into a net-work of sufficient dimensions; rigged it with a hoop and the necessary cords; and made purchase of numerous instruments and materials for experiment in the upper regions of the upper atmosphere. I then took opportunities of conveying by night, to a retired situation east of Rotterdam, five iron-bound casks, to contain about fifty gallons each, and one of a larger size; six tin tubes, three inches in diameter, properly shaped, and ten feet in length; a quantity of a particular metallic substance, or semi-metal, which I shall not name, and a dozen demijohns of a very common acid. The gas to be formed from these latter materials is a gas never yet generated by any other person than myself—or at least never applied to any similar purpose. I can only venture to say here, that it is a constituent of azote, so long considered irreducible, and that its density is about 37.4 times less than that of hydrogen. It is tasteless, but not odourless: burns, when pure, with a greenish flame, and is instantaneously fatal to animal life. Its full secret I would make no difficulty in disclosing, but that it is of right belongs (as I have before hinted) to a citizen of Nantz, in France, by whom it was conditionally communicated to myself. The same individual submitted to me, without being at all aware of my intentions, a method of constructing balloons from the membrane of a certain animal, through which substance any escape of gas was nearly an impossibility. I found it, however, altogether too expensive, and was not sure, upon the whole, whether cambric muslin with a coating of gum caoutchouc, was not equally as good. I mention this circumstance, because I think it probable that hereafter the individual in question may attempt a balloon ascension with the novel gas and material I have spoken of, and I do not wish to deprive him of the honour of a very singular invention.

On the spot which I intended each of the smaller casks to occupy respectively during the inflation of the balloon, I privately dug a small hole; the holes forming in this manner a circle twenty-five feet in diameter. In the centre of this circle, being the station designed for the large cask, I also dug a hole of greater depth. In each of the five smaller holes, I deposited a canister containing fifty pounds, and in the larger one a keg holding one hundred and fifty pounds of cannon powder. These—the keg and the canisters—I connected in a proper manner with covered trains; and having let into one of the canisters the end of about four feet of slow-match, I covered up the hole, and placed the cask over it, leaving the other end of the match protruding about an inch, and barely visible beyond the cask. I then filled up the remaining holes, and placed the barrels over them in their destined situation!

Besides the articles above enumerated, I conveyed to the dépôt, and there secreted, one of M. Grimm's improvements upon the apparatus for condensation of the atmospheric air. I found this machine, however, to require considerable

alteration before it could be adapted to the purposes to which I intended making it applicable. But, with severe labour and unremitting perseverance, I at length met with entire success in all my preparations. My balloon was soon completed. It would contain more than forty thousand cubic feet of gas; would take me up easily, I calculated, with all my implements, and if I managed rightly, with one hundred and seventy-five pounds of ballast into the bargain. It had received three coats of varnish, and I found the cambric muslin to answer all the purposes of silk itself, being quite as strong and a good deal less expensive.

Everything being now ready, I exacted from my wife an oath of secrecy in relation to all my actions from the day of my first visit to the bookseller's stall; and promising, on my part, to return as soon as circumstances would permit, I gave her what little money I had left, and bade her farewell. Indeed, I had no fear on her account. She was what people call a notable woman, and could manage matters in the world without my assistance. I believe, to tell the truth, she always looked upon me as an idle body—a mere makeweight—good for nothing but building castles in the air—and was rather glad to get rid of me. It was a dark night when I bade her good bye, and taking with me, as *aides-de-camp*, the three creditors who had given me so much trouble, we carried the balloon, with the car and accoutrements, by a roundabout way, to the station where the other articles were deposited. We there found them all unmolested, and I proceeded immediately to business.

It was the first of April. The night, as I said before, was dark; there was not a star to be seen; and a drizzling rain, falling at intervals, rendered us uncomfortable. But my chief anxiety was concerning the balloon, which, in spite of the varnish with which it was defended, began to grow rather heavy with the moisture: the powder also was liable to damage. I therefore kept my three duns working with great diligence, pounding down ice around the central cask, and stirring the acid in the others. They did not cease, however, importuning me with questions as to what I intended to do with all this apparatus, and expressed much dissatisfaction at the terrible labour I made them undergo. They could not perceive (so they said) what good was likely to result from their getting wet to the skin, merely to take a part in such horrible incantations. I began to get uneasy, and worked away with all my might; for I verily believe the idiots supposed that I had entered into a compact with the devil, and that, in short, what I was now doing was nothing better than it should be. I was, therefore, in great fear of their leaving me altogether. I contrived, however, to pacify them by promises of payment of all scores in full, as soon as I could bring the present business to a termination. To these speeches they gave, of course, their own interpretation; fancying, no doubt, that at all events I should come into possession of vast quantities of ready money; and provided I paid them all I owed, and a trifle more, in consideration of their services, I dare say they cared very little what became of either my soul or my carcass.

In about four hours and a half I found the balloon sufficiently inflated. I attached the car, therefore, and I put all my implements in it—a telescope; a barometer, with some important modifications; a thermometer; an electrometer; a compass; a magnetic needle; a seconds watch; a bell; a speaking trumpet, etc., etc.—also a globe of glass, exhausted of air, and carefully closed with a stopper—not forgetting the condensing apparatus, some unslacked lime, a stick of sealing-wax, a copious supply of water, and a large quantity of provisions, such as pemmican, in which much nutriment is contained in comparatively little bulk. I also secured in the car a pair of pigeons and a cat.

It was now nearly daybreak, and I thought it high time to take my departure. Dropping a lighted cigar on the ground, as if by accident, I took the opportunity, in stooping to pick it up, of igniting privately the piece of slow match, the end of which, as I said before, protruded a little beyond the lower rim of one of the smaller casks. This manoeuvre was totally unperceived on the part of the three duns; and jumping into the car, I immediately cut the single cord which held me to the earth, and was pleased to find that I shot upwards with inconceivable rapidity, carrying with all ease one hundred and seventy-five pounds of leaden ballast, and able to have carried up as many more. As I left the earth, the barometer stood at thirty inches, and the centigrade thermometer at 19°.

Scarcely, however, had I attained the height of fifty yards, when, roaring and rumbling up after me in the most tumultuous and terrible manner, came so dense a hurricane of fire, and gravel, and burning wood, and blazing metal, and mangled limbs, that my very heart sank within me, and I fell down in the bottom of the car, trembling with terror. Indeed,

I now perceived that I had entirely overdone the business, and that the main consequences of the shock were yet to be experienced. Accordingly, in less than a second, I felt all the blood in my body rushing to my temples, and, immediately thereupon, a concussion, which I shall never forget, burst abruptly through the night, and seemed to rip the very firmament asunder. When I afterwards had time for reflection, I did not fail to attribute the extreme violence of the explosion, as regarded myself, to its proper cause—my situation directly above it, and in the line of its greatest power. But at the time, I thought only of preserving my life. The balloon at first collapsed, then furiously expanded, then whirled round and round with sickening velocity, and finally, reeling and staggering like a drunken man, hurled me over the rim of the car, and left me dangling, at a terrific height, with my head downwards, and my face outwards, by a piece of slender cord about three feet in length, which hung accidentally through a crevice near the bottom of the wicker-work, and in which, as I fell, my left foot became most providentially entangled. It is impossible—utterly impossible—to form any adequate idea of the horror of my situation. I gasped convulsively for breath—a shudder resembling a fit of the ague agitated every nerve and muscle in my frame—I felt my eyes starting from their sockets—a horrible nausea overwhelmed me—and at length I lost all consciousness in a swoon.

How long I remained in this state it is impossible to say. It must, however, have been no inconsiderable time, for when I partially recovered the sense of existence, I found the day breaking, the balloon at a prodigious height over a wilderness of ocean, and not a trace of land to be discovered far and wide within the limits of the vast horizon. My sensations, however, upon thus recovering, were by no means so replete with agony as might have been anticipated. Indeed, there was much of madness in the calm survey which I began to take of my situation. I drew up to my eyes each of my hands, one after the other, and wondered what occurrence could have given rise to the swelling of the veins, and the horrible blackness of the finger-nails. I afterwards carefully examined my head, shaking it repeatedly, and feeling it with minute attention, until I succeeded in satisfying myself that it was not, as I had more than half suspected, larger than my balloon. Then, in a knowing manner, I felt in both my breeches pockets, and, missing therefrom a set of tablets and a tooth-pick case, endeavoured to account for their disappearance, and, not being able to do so, felt inexpressibly chagrined. It now occurred to me that I suffered great uneasiness in the joint of my left ankle, and a dim consciousness of my situation began to glimmer through my mind. But, strange to say! I was neither astonished nor horror-stricken. If I felt any emotion at all, it was a kind of chuckling satisfaction at the cleverness I was about to display in extricating myself from this dilemma; and never, for a moment, did I look upon my ultimate safety as a question susceptible of doubt. For a few minutes I remained wrapped in the profoundest meditation. I have a distinct recollection of frequently compressing my lips, putting my forefinger to the side of my nose, and making use of other gesticulations and grimaces common to men who, at ease in their arm-chairs, meditate upon matters of intricacy or importance. Having, as I thought, sufficiently collected my ideas, I now, with great caution and deliberation, put my hands behind my back, and unfastened the large iron buckle which belonged to the waistband of my pantaloons. This buckle had three teeth, which, being somewhat rusty, turned with great difficulty on their axis. I brought them, however, after some trouble, at right angle to the body of the buckle, and was glad to find them remain firm in that position. Holding within my teeth the instrument thus obtained, I now proceeded to untie the knot of my cravat. I had to rest several times before I could accomplish this manoeuvre; but it was at length accomplished. To the end of the cravat I then made fast the buckle, and the other end I tied, for greater security, tightly round my waist. Drawing now my body upwards, with a prodigious exertion of muscular force, I succeeded, at the very first trial, in throwing the buckle over the car, and entangling it, as I had anticipated, in the circular rim of the wicker-work.

(To be continued.)

"BUS DRIVER: "Me and that off horse has been workin' for the company for twelve years now."  
Passenger: "Really? The company must think a good deal of you both."  
"Well, I dunno; last week the two of us was taken ill, and they got a doctor for the horse, but stopped my wages. Gid-up there, now, Betsy."

THE GRAPE-VINE.

THE vine comes to perfection in Europe as far north as latitude fifty degrees, or fifty-two degrees, but as a general rule its profitable cultivation does not extend much beyond latitude forty-eight degrees, the best vines being produced between thirty degrees, and forty-five degrees north latitude. Its range in America is much more limited, a difference of six degrees occurring between its northerly limits in the old and the new worlds, and this is the case also in Asia. The native country of the vine has been generally considered to be the region south of the Caspian Sea. From this presumed centre it has spread eastwards into Central Asia and westwards to both sides of the Mediterranean, Central Europe, and as far north as the Rhine, where it is encouraged in every possible way by being planted with the proper exposure to the mid-day sun and with a background of rock, and by the soil being carried up to the most favoured spots. The vine requires a high summer temperature and a prolonged period in which to ripen its fruits. Where these are forthcoming it can be cultivated with profit, although the winter temperature of the locality is low.

A BODY immersed in water is easier to lift than when on land, because it is partially supported by the water, and becomes lighter to an extent equal to the weight of the water which it displaces by its immersion. A stone which on land requires the strength of two men to lift it, may be lifted and carried in water by one man; so the support afforded by the water is equivalent to the assistance of an additional hand. A boy will often wonder why he can lift a certain stone to the surface of the water but no farther. The reason that stones are so easily moved by the sea is because the moving water has only to overcome about half the weight of the stones. Men at work under water seem endowed with supernatural strength, raising with ease, and adjusting in their places rocks and stones which they would vainly attempt to move above water. After a man has worked for a considerable time under water he finds, upon returning to the upper air, that he is apparently weak and feeble, as everything which he attempts to lift appears to have unusual weight, and the action of his own limbs is not effected with customary ease.

Time Table of Classes.

SESSION 1889-90.

The Spring Term commenced on Thursday, April 10th, 1890. The Classes are open to both Sexes of all ages. The Art Classes are held at Essex House, Mile End Road. As the number attending each class is limited, intending Students should book their names as soon as possible. By payment of an additional fee of Sixpence per Quarter, Students will have the privilege of attending the Concerts and Entertainments arranged expressly for them in the Queen's Hall on Wednesday Evenings. Only those engaged in the particular trade to which the class refers can join either the Practical or Technical Classes at the terms stated in the Time Table. Further particulars may be obtained upon application at the Office, Technical Schools, People's Palace. The Workshops are replete with requirements, well filled with Tools, etc. The Lectures will be fully demonstrated with Experiments, Diagrams, Dissolving Views, Specimens, Practical Demonstrations, etc. The Lecture Rooms are commodious and well supplied with apparatus, etc. The Physical and Chemical Laboratories are well fitted and supplied with all apparatus required for a thorough practical instruction. Separate Lavatories and Cloak Rooms are provided for Male and Female Students. Students also have the privilege of using the Library and Refreshment Rooms. The Practical and Technical Classes are limited to Members of the Trade in question.

Practical Trade Classes.

Table with 5 columns: SUBJECT, TEACHER, DAY, HOURS, FEES. Lists classes like Tailors' Cutting, Upholstery, Filing, etc.

Only those engaged in the particular trade to which the Class refers can join the Practical Classes at the terms stated in the Time Table.

General Classes.

Table with 5 columns: SUBJECT, TEACHER, DAY, HOURS, FEES. Lists classes like Art Class, Arithmetic, Book-keeping, etc.

GENERAL CLASSES—Continued.

Table with 5 columns: SUBJECT, TEACHER, DAY, HOURS, FEES. Lists classes like Elocution, Writing, London University Exam, etc.

Musical Classes.

Table with 5 columns: SUBJECT, TEACHER, DAY, HOURS, FEES. Lists classes like Singing, Choral Society, Orchestral Society, etc.

\* Ladies admitted to these Classes at Reduced Fees, viz., 1s.

Special Classes for females only.

Table with 5 columns: SUBJECT, TEACHER, DAY, HOURS, FEES. Lists classes like Dressmaking, Millinery, Cookery, etc.

\* Single Lesson, 6d. 1 Single Lesson, 1s. Single Lesson, 1d.

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 Old Established High Class  
**PROVISION WAREHOUSE,**  
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**108 & 109, WHITECHAPEL RD., E.**  
 (Opposite the London Hospital.)

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**TURKISH BATHS.**  
 J. & H. NEVILL.  
 Gentlemen—44, High St., Whitechapel.  
 Ladies—7, Commercial Road.  
 (Next door to Gardiner's.)  
 2s. 6d. before 6; 1s. 6d. after 6 p.m.  
 And at London Bridge and Charing Cross.

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**422, MILE END ROAD.**  
 Opposite People's Palace.

**E. C. PHILLIPS & CO.'S**  
 FIRST CLASS  
**Pianofortes & Organs**  
 For CASH or on EASY TERMS.  
**From 10/6 Month.**  
 A Liberal Discount for Cash.  
 Every instrument guaranteed for 15 years.  
 EXTENSIVE SHOWROOMS:  
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 Pianofortes Tuned and Repaired equal to new  
 at Moderate Charges. Estimates Free.  
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**FRESH BUTTERS.**  
 The Best Fresh .. .. 1/6  
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 The Very Best Dorset .. .. 1/4  
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 N.B.—All our Butters are warranted  
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 Hundreds of Patterns  
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 Any make of Machine supplied at a large discount for Cash, or  
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 Promptly and Cheaply. All the latest pattern Machines let on hire.  
 Second-hand Machines Bought, Sold, or Exchanged.  
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 In 9, 15, or 18-carat Gold,  
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