

Theatre. On Wednesday evening Balfe's "Satanstoe" was performed, followed on Thursday by "Belle Helene," and on Friday by Balfe's over-popular "Bohemian Girl." This evening the "Lakes of Killarney" will be performed, when Mr. Miers' specialties, Mr. Hudson's comic delineation of character, and Doborn Bamboozled will show to full advantage, and Miss Sallie Holman will sustain three characters. Next week there will be a series of other changes in the repertoire. The sweet faces of the Misses Holman, without the charm of their voices, ought to be enough to attract all our gallants. Mrs. Holman presides at the Piano, and leads with precision, correctness, and thorough musical power.

THE CARE OF HOUSE-PLANTS.

How to make plants grow in the house is a much more important question than how to make them grow in the greenhouse. Few persons have conservatories. Almost every person has a window at which the spring and summer of plant-life may be fostered and maintained during the long winter months.

Formerly almost every house had its plants. The children and the flowers were the chief ornaments of the old homestead. During the last generation, or since the introduction of furnaces and gas, the cultivation of plants in our houses has steadily declined. I propose now to show that this great deprivation and loss to our modern houses is unnecessary, and that plants may flourish as well under the dispensation of gas and the furnace as in the days of the wood-fire and mould-candles.

It may be true that plants will not grow in an artificially desiccated air. The skin and the delicate membranes of the throat and lungs parch in the dry furnace heat just like the leaves of the plants. The freshest complexion becomes wizened by a winter of this sirocco. What then shall be done in our furnace-heated houses? Simply introduce evaporators, which shall furnish to the air at least one-half as much moisture as the air naturally contains at the same temperature in spring or summer. The shrinking of the woodwork of the houses, or warping of furniture, are indications of an unnaturally dry heat, which is fatal to plant, and injurious to animal life.

It is true also, that plants will not thrive in close rooms, charged with the sulphurous acid escaping from the combustion of anthracite or a product of combustion of impure illuminating gas; and in the same atmosphere the throat and lungs of human beings will suffer more or less severely. What is the remedy? Open a ventilator into the chimney, near the top of every room, if you can do no better, and keep it open, at least during the evening, while the gas is burning.

I am prepared to say that furnace-heat and gas-light are no obstacles to the cultivation of plants, observing only the precautions which are equally essential to human health. I think the rule should be broadly stated, that any room in which plants refuse to grow is unfit for human life.

In this connection, it is proper to enter a protest against the barbarous habit of excluding the sunshine from inhabited rooms, especially in winter. Its effect is almost as depressing on children and delicately organized women as upon plants.

There is one other obstacle to the growth of plants in the modern house; which is the plague of insects. Some varieties, especially the microscopic red spider, are uncontrollable in a dry atmosphere, but retire at once before proper evaporation. For the rest improved resources of which I may speak at another time, make it tolerably easy now to keep house-plants free from parasites.

To illustrate theory by fact: I heat a moderate sized house, containing about twenty thousand cubic feet, with a furnace. I find it necessary to expose seven square feet of evaporating surface in the air chamber of the furnace to produce a proper degree of atmospheric moisture. Half this surface would answer with better exposure. About a pint of water is evaporated in twenty-four hours for each seven thousand cubic feet in the house, in raising the temperature from 40° to 70°, two pints in raising it from 30° to 70°, three pints in raising it from 20° to 70°, and four pints in raising it from 10° to 70°, and about five pints in raising it from zero to 70°. Thus, in the extreme of cold weather, it requires nearly six pails of water in twenty-four hours to keep the atmosphere of the house soft and agreeable though not appreciably moist; that is, not nearly as moist as the ordinary summer air at 70°.

At twelve windows north, east, south, and west of the house thus heated, I have about seventy plants, mostly of the common kinds in very fine condition. During several years I have never known them to be injured by the furnace-heat and never by the gas, freely consumed, except in a single instance of an ivy growing near the ceiling of the room during an accidental leaking of gas.

I find that ivies thrive peculiarly under the conditions described, growing well in positions furthest from the light; as, for instance, on the hearth, forming a magnificent fireboard. Six or eight varieties of variegated leaved ivy thrive well with the common. I find that roses which have blossomed during the summer of the ground, being potted after hard frost, stripped ruthlessly of every leaf, and trimmed in almost to bare poles are covered with buds within a month at my window, and blossom all winter, great authorities to the contrary notwithstanding. This winter a Madame Bosanquet has left all the rest, showing buds in three weeks, closely followed, however, by the Agrippina Souvenir de Desire, Sarfano, Hermosa, and Sanguine.

The Chinese-primrose, and coral drop begonia are never out of blossom with me in the winter. A heliotrope, occupying a whole window, gives hundreds of its clusters, beginning in December. The orange, lemon, myrtle, and diosma grow with the greatest ease; and the Daphne odora and laurustinus blossom in their season. Among other plants which I find it good to have in the house, I will mention the varieties of winter and spring blooming cactus, geranium, oleander, abutilon, calla, Tradescantia sobrina (large and small leaved), hoye, maurandia, tropaeolum, saxifrage, Coliseum vine, Madeira vine, and the usual bulbs.—*Corr. Journal of Horticulture.*

SCIENTIFIC.

The Mediterranean Sea contains of Salt, 2.719 per cent; the Atlantic Ocean, 2.789 per cent; the English Channel, 2.695 per cent; the Pacific Ocean, 2.587 per cent; the Lake Ormiah (Persia,) 19.06 per cent.

OLEOGRAPHY.—This is the name given to the art of fixing on paper the special forms which a drop of oil assumes when poured on water. These forms, or patterns, vary, with every sort of oil, and are exceedingly interesting and beautiful. Oleography may be briefly described thus: Having obtained the oil pattern, lay on it for an instant a piece of glazed surface paper, then take it off and place it on a surface of ink or any other colored fluid in water or spirit. Now wash off any excess of color with plain water; when dry, the pattern is fixed. The paper becomes greasy where the oil is present and thus resists the action of the ink, but it is rapidly absorbed on the blank places.—*Septimus Piesse.*

MOTION.—"There is a definite store of energy in the universe, and every natural change or technical work is produced by a part only of this store, the store itself being eternal and unchangeable." What the learned Helmholtz teaches by these few words is important for us all to know, and it is this: Every force or power, that is, energy, that man exerts himself, or that he sees exerted by other animals, or any power or force exerted by natural phenomena—such as by the wind, the waves, or falling water, or what we may term artificial power or force, as exhibited in a steam engine, or a wound-up clock—is derived from the store of force-energy already existing in things of the earth. There is, in fact, never at any time any new creation of force, but merely a release of it, for the time being, from a state of rest. Hence, force, or energy, merely passes from one thing to another, and it is during this transmission that it becomes apparent under the form of motion.

VARNISH FOR IRON.—The following is a method given by Mr. Weiskopf of producing upon iron a durable black shining varnish: "Take oil of turpentine, add to it, drop by drop and while stirring, strong sulphuric acid until a syrupy precipitate is quite formed, and no more of it is produced on further addition of a drop of acid. The liquid is now repeatedly washed with water, every time refreshed after a good stirring until the water does not exhibit any more acid reaction on being tested with blue litmus paper. The precipitate is next brought upon a cloth filter, and, after all the water has run off, the syrupy mass is fit for use. This thickish magma is painted over the iron with a brush; it is happens to be too stiff, it is previously diluted with some oil of turpentine. Immediately after the iron has been so painted, the paint is burnt in by a gentle heat, and, after cooling, the black surface is rubbed over with a piece of woolen stuff dipped in, and moistened with linseed oil. According to the author, this varnish is not a simple covering of the surface, but it is chemically combined with the metal, and does not, therefore, wear off or peel off, as other paints and varnishes do, from iron."

The death is announced of Mr. Patrick McDowell, R.A., the eminent sculptor. Mr. McDowell was born in Belfast in 1799, and was at the age of twelve apprenticed to a coach-builder in Hampshire; but the bankruptcy of his master set him free, and, having become acquainted with a French sculptor, he found an opportunity of improving the talent he possessed, and when he was hardly of age he set up as a sculptor on his own account. The work which fully established his fame was his figure of "A Girl Riding," which brought him an abundance of commissions, and no doubt helped to secure for him his election to the rank of an Associate of the Royal Academy. In 1846 he was elected to the full honours of a Royal Academician.

THE FASHION PLATE.

Our first four cuts give a mode of dressing the hair for girls between six and twelve that is at present extremely in vogue on the other side of the Atlantic. Nos. 1 and 2 give the front, side and back view of the hair arranged in curls and plaits, while No. 3 shows the manner of dressing it after this fashion. No. 4 is another very favourite mode for girls of twelve or thirteen years of age.

AFTERNOON TOILETTE.

No. 1.—The dress and jacket are of grey *poult-de-soie*, trimmed with three rows of black velvet edging, and narrow black lace. Bows of grey *poult-de-soie* down the front, and muslin fichu with coloured ribbons. The trimming forms two flounces at the bottom of the dress.

No. 2.—The under-skirt is of *pense taffet*, and the over skirt of *pense cachemire*. The former has a broad volant, edged above with four strips of *cachemire*, and below with a box-plaited edging. The over-skirt is trimmed with a broad band of black velvet, edged on both sides, and with a narrow piping and lace edging in lieu of binding. The body has a velvet revers and cuffs, both edged with narrow black lace. The over-skirt should be made very full, and should fall on both sides in a large fold, as shown in the plate.

No. 3.—Costume of brown poplin, with double waist. The skirt has four flounces with diagonal stripes of brown velvet, as shown in the plate. The jacket is trimmed with brown satin, velvet, and buttons, and is drawn aside in front in two revers, showing the under-waist of brown satin, with trimmings of the same.

No. 4.—A black grosgrain paletot, trimmed with black insertion lace, box-plaiting and a broad lace fall. Black velvet hat with black ribbons and veil.

No. 5 is of any claret-coloured material, and consists of skirt, jacket and pannier. The trimmings are of velvet, with heavy fringe of the same colour as the dress. The skirt has two flounces of velvet and fringe, with a deep volant at the bottom.

CHARADES.

ANSWER TO CHARADE IN No. 1.

Garter.
Irritate.
Iris.
Tien-Tsin.
Ristori.
Greece.
Tire.

Sir George Etienne Cartier.

The usually trustworthy correspondent of the *Pester Lloyd*, writing from Odessa on Nov. 18, estimates the Russian troops on the frontiers of Austria and the Black Sea at over 300,000 men, and declares that there are six frigates at Nikolaieff, besides thirty masked gunboats belonging to the Government.

Temperature in the shade, and Barometer indications for the week ending Monday, Jan. 9, 1871, observed by John Underhill, Optician to the Medical Faculty of McGill University, 292 Notre Dame Street.

| | | 9 A. M. | 1 P. M. | 6 P. M. |
|-----------------|-------|---------|---------|---------|
| Tuesday, Jan. 3 | ..... | 10° | 22° | 8° |
| Wednesday, " 4 | ..... | —6° | —1° | —1° |
| Thursday, " 5 | ..... | —1° | 6° | 13° |
| Friday, " 6 | ..... | 34° | 34° | 28° |
| Saturday, " 7 | ..... | —5° | 1° | 0° |
| Sunday, " 8 | ..... | —6° | —4° | —7° |
| Monday, " 9 | ..... | —10° | —2° 5 | —5° |

| | | Max. | Min. | Mean. |
|-----------------|-------|------|------|-------|
| Tuesday, Jan. 3 | ..... | 24° | 3° | 13° 5 |
| Wednesday, " 4 | ..... | 0° | —10° | —5° |
| Thursday, " 5 | ..... | 15° | —11° | 2° |
| Friday, " 6 | ..... | 34° | 13° | 23° 5 |
| Saturday, " 7 | ..... | 2° | —6° | —2° |
| Sunday, " 8 | ..... | 0° | —9° | —4° 5 |
| Monday, " 9 | ..... | 2° | —15° | —8° 5 |

Aneroid Barometer compensated and corrected.

| | | 9 A. M. | 1 P. M. | 6 P. M. |
|-----------------|-------|---------|---------|---------|
| Tuesday, Jan. 3 | ..... | 30.10 | 29.97 | 30.46 |
| Wednesday, " 4 | ..... | 30.48 | 30.50 | 30.50 |
| Thursday, " 5 | ..... | 30.08 | 29.95 | 29.80 |
| Friday, " 6 | ..... | 29.83 | 29.84 | 29.94 |
| Saturday, " 7 | ..... | 30.40 | 30.43 | 30.47 |
| Sunday, " 8 | ..... | 30.50 | 30.48 | 30.52 |
| Monday, " 9 | ..... | 30.60 | 30.66 | 30.70 |

CHESS.

The following game (from the Chess-player's Magazine) illustrates an opening which has been frequently played lately by some of our amateurs. The notes are by Mr. Lowenthal:

FIANCHETTO.

White—Mr. Lowenthal.

Black—Mr. Owen.

1. P. to K. 4th.

2. P. to Q. 4th.

3. B. to Q. 3rd.

4. B. to K. 3rd.

5. Kt. to Q. B. 3rd. (a)

6. P. to K. B. 3rd.

7. K. Kt. to K. 2nd.

8. P. takes P.

9. Castles.

10. Kt. takes B.

11. P. to K. 5th.

12. B. to Q. 2nd.

13. B. takes Kt.

14. Q. to K. 2nd.

15. Q. R. to Q. sq.

16. P. takes P. (en pass) (b)

17. Q. to K. 3rd.

18. Q. to K. R. 6th.

19. Q. B. takes P.

20. Q. to Kt. 5th. ch. (c)

21. B. to K. 2nd. (d)

22. B. to Q. B. 3rd.

23. P. to K. Kt. 4th.

24. R. to K. B. 2nd.

25. Q. R. to K. B. sq.

26. Q. to Q. 2nd.

27. B. takes Q. R. P.

28. P. to R. 3rd.

29. B. to Q. B. 3rd.

30. R. P. takes P.

P. to Q. Kt. 3rd.

B. to Q. Kt. 2nd.

P. to K. 3rd.

Kt. to K. B. 3rd.

B. to Q. Kt. 5th.

Castles.

P. to Q. B. 4th.

P. takes P.

B. takes Kt.

Q. to Q. R. 4th.

Kt. to Q. 4th.

Kt. takes Kt.

Q. to Q. B. 2nd.

Kt. to Q. B. 3rd.

P. to K. B. 4th.

P. takes P.

Kt. to K. 2nd.

R. to K. B. 2nd.

P. to Q. P. 5th.

K. to K. B. sq.

Kt. to K. B. 4th.

P. to Q. R. 4th.

R. to Q. R. 3rd.

R. to K. Kt. 3rd.

Kt. to K. R. 5th.

Q. to Q. B. 3rd.

P. to R. 4th.

P. takes P.

R. takes P. ch. (f)

And White resigns.

a Kt. to Q. 2nd. is a better move here.

b Taking P. with P. in passing gives White a fine attack.

c If 20. B. takes R. P. ch.

d Q. to Kt. 5th. ch.

e With a piece ahead.

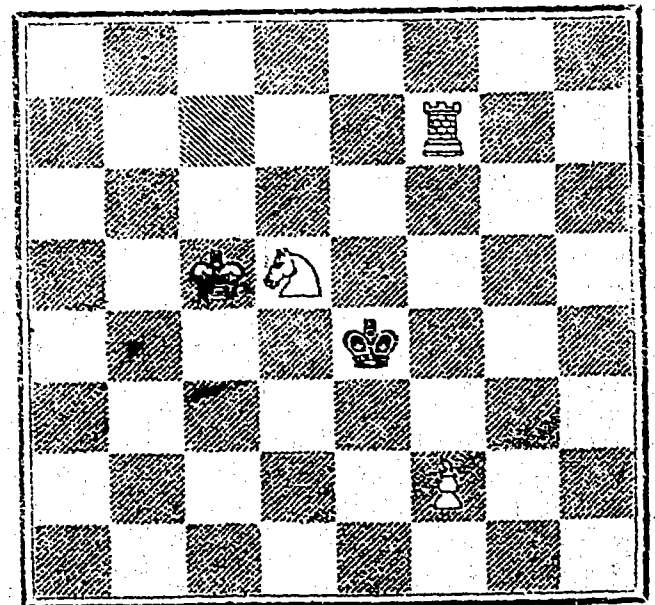
f White, we believe, might have maintained his advantage by taking off the Knight at this point.

g An ingenious conception, by which Black is enabled to turn the tables in his favour.

h A pretty termination.

PROBLEM No. 24.

BLACK.



WHITE.

White to play, and mate in five moves.

At a recent meeting held in Edinburgh it was arranged that the centenary of Sir Walter Scott, in August next, should be celebrated in that city, and not at Melrose, as was at one time suggested. There will be a grand banquet, and it is also proposed that the centenary should be commemorated in a substantial form by the foundation of scholarships or bursaries in the Scotch Universities, or by some other foundation connected with the cultivation of British literature.