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THE

Gardeners' Chronicle.

SATURDAY, JULY 4, 1874.

APPOINTMENTS FOR THE ENSUING WEEK.

MONDAY,	July 6	Implement trial at Bedford commences. Meeting of the Entomological Society of London, at 7 P.M.
TUESDAY,	July 7	Midland Counties Grand Horticultural (four days) Exhibition at Birmingham opens.
WEDNESDAY,	July 8	Royal Caledonian Horticultural Society's Show. Bishop Stortford Horticultural Society's (two days') Show opens. Chelmsford Horticultural Society's Exhibition. West of England Rose Show, at Hereford. Wisbech Annual Flower Show. Grand National Rose Show in Dublin Exhibition Palace.
THURSDAY,	July 9	Horticultural Exhibition at Peterborough.
FRIDAY,	July 10	Altrincham and Bowdon Rose Society's (two days') Show. Midland Counties Grand Exhibition at Birmingham closes.

MOST of us remember the use that PALEY made of the watch as an evidence of design, and of necessity of a designer. Twenty or thirty years ago this doctrine suffered by injudicious illustration, and a new school arose deriving its chief inspiration from GOETHE. Modifications in form were set down as variations from an ideal pattern or type, and adaptations to special ends, though admitted in some cases, were discredited in others. Not the least service which Mr. DARWIN has rendered to science has been the demonstration that many adaptations formerly supposed either to be of trifling moment or purposeless illustrations of a particular preordained pattern, are really adaptations to special purposes, or, at least, are the relics of traces of former adaptation of this kind. While some naturalists have been counting spots and measuring scales, splitting hairs 'twixt south and south-west sides, disputing whether there are two or twenty species of Brambles, or referring every little bump to a theoretical typical form, Mr. DARWIN has been quietly and steadily setting to work to show the purpose and meaning of various organs and rudimentary structures. In this manner he has made clear the use and purport of many parts and variations in plants, the study of which was before to a large extent barren in results. In thus affording a rational and intelligible explanation of many structures and phenomena, Mr. DARWIN has not only advanced physiological science to a high degree, and infected others with the desire so far as their means and abilities are concerned to do likewise, but he has placed a most effective weapon in the hands of those who, like PALEY, attach very high importance to the study of Natural Theology. Our pages of late years have teemed with illustrations of adaptations of structure to function, especially with regard to the fertilisation of flowers by insects. Only lately, through the kindness of Dr. ASA GRAY, we have had occasion to lay before our readers the curious arrangements by which Droseras and Sarracenias obtain some at least of their nourishment by entrapping and digesting insects. Dr. SANDERSON has shown us how the movement of the leaves of Venus' Fly-trap Dionæa is accompanied by electrical phenomena, as in the case of the muscles of animals. One of the most curious illustrations yet made known, showing the relation of structural form to definite purpose in the economy of the plant, is that laid before the Scientific Committee on Wednesday last by Mr. DARWIN. Mr. DARWIN'S researches are not yet fully completed, and at some future time he will give a fuller account of his researches, meanwhile no reader will fail to see the exceeding interest of the phenomena we now proceed to relate :—

"The leaves of Pinguicula vulgaris, according to Mr. DARWIN, possess a power of digesting animal matter similar to that shown by the Sundews (Drosera). Albumen, fibrin, meat or cartilage induce a secretion from the glands of the upper surface of the leaf, and their secretion becomes feebly acid (but not so much so as that of Drosera). Their secretion is reabsorbed, and causes an aggregation of the protoplasm in the cells of the glands, such as had been observed in other similar cases. Before excitement the glands were seen to be filled with a homogeneous pale greenish fluid ; after the aggregation of the protoplasm it can be seen to move. When a row of insects or of Cabbage seeds are placed near the margin of a leaf (or when a single insect is placed at one point,) the whole margin (or one point) becomes curled considerably over in two or three hours ; the apex of the leaf will not turn over towards the base. Small fragments of glass also cause a similar movement, but to a much less degree. The inflexed margin pours forth a secretion which envelopes the flies or seeds, but pieces of glass cause no, or hardly any, increase of secretion. But here comes a puzzle : If the flies or fly be removed, the margin of the leaf turns back in less than twenty-four hours ; but it does so also when a row of flies and Cabbage seeds are left adhering ; so that the use or meaning of the inflexion is at present quite a puzzle."

We must await the publication in full of Mr. DARWIN'S researches before we can say more on the subject. Meantime, as many of our readers will speedily be hieing northwards to the moorlands, where Pinguicula grows, and where Drosera is abundant, we would fain hope that some of them will be enabled to watch the plants in question, and ascertain what insects are entrapped, and under what circumstances.

THE official dedication of LEICESTER SQUARE to the public use has afforded us an opportunity for supplementing the information we have already given as to the Square at p. 155, vol. i., 1874. The arrangement of the flower-beds has been slightly altered, but in the main the disposition is the same as that shown in the plan we gave in the number before cited. In place of a circular bed in front of each of the four busts in the several corners of the Square, a somewhat semi-lunar form has been adopted, which is decidedly an improvement. As at present planted the centre of each bed is occupied with yellow Calceolarias, with three rows on either side, consisting, going from the centre outwards, of a pink-flowering Pelargonium, a silver variegated variety, and blue Lobelia. The four central masses are laid with turf, with two oblong beds "bedded out" with flowers, and with Yuccas intervening. Good sized standard Bays in tubs are placed in appropriate situations, and the central marble basin surrounding the statue of SHAKSPEARE is also begirt with flowers. The shrubberies are composed entirely of evergreens, chiefly of Rhododendrons, with a few coniferous shrubs, Golden Yews, Thujas, &c. We tremble to think of the fate of these shrubs after a few months' exposure to London atmosphere. We have, however, little doubt, from the rapidity with which the transformation from a "filthy wilderness" into "a blooming garden" has been effected, that the planting is to a considerable extent of a temporary character, and that care will be taken ultimately to place a few deciduous trees here and there, and generally to obviate the thin, poor appearance which a newly-planted place almost necessarily has. In the blazing sun which poured fiercely down on the visitors on the opening day the want of shade was painfully felt, and though, of course, it was too much to expect that such shade would be forthcoming immediately, yet we should be glad to know that provision is likely to be made for the future in this matter. Pyramidal trees, such as Lombardy Poplars, fastigiate Oaks, and other trees of like character, would be quite in keeping with the architectural surroundings, while Planes, Maples, especially Acer eriocarpum, white Poplars, some of the species of Pyrus, the Naples Alder, Alnus cordata, or some of them, might be advantageously placed at intervals. We say some of them, for there is, in truth, little space at disposal, the whole area being little more than an acre, and very properly a large portion of this is occupied with walks, seats, &c.

The central statue of SHAKSPEARE is in white marble, and is a copy of that in Westminster Abbey. It is supported on a square pedestal, also of white marble, and this is flanked by four dolphins, on the top of a shallow flight of steps, which even a dolphin would have a difficulty in ascending, especially head downwards. The whole structure rises from a circular marble basin, filled with water. Had the pedestal been of polished Aberdeen granite, we think the effect would have been greatly enhanced, while the placing of the conventional dolphins, who have apparently escaped from the water beneath, with their tails uncomfortably bent up against the sharp angles of the pedestal, would, were the creatures living, certainly demand the intervention of the Royal Humane Society. The more humane and, artistically, the more effective mode, would have been to have allowed the tails to have fitted into flutings or recesses, which would also have obviated the painful angularity of the pedestal, and it would have been still better had the creatures been placed in a more natural attitude. The jets of water from the blow-holes of the cetaceans, though anatomically correct, are scarcely of sufficient magnitude to be effective.

A low edging of bent iron, to resemble bent wood, surrounds the plots of turf, which latter look remarkably well, considering the short time it has been laid. The whole Square is enclosed with an ornamental iron railing of height sufficient to protect the enclosure and not too high to prevent the passers-by enjoying a full view of the grateful turf and pretty flower-beds.

Had REYNOLDS been looking on in the flesh from the windows of his house hard by on the occasion of the opening ceremonial, he would have fancied that fashion in ladies' head-gear had altered wondrous little, for there were not a few head-coverings almost precisely like