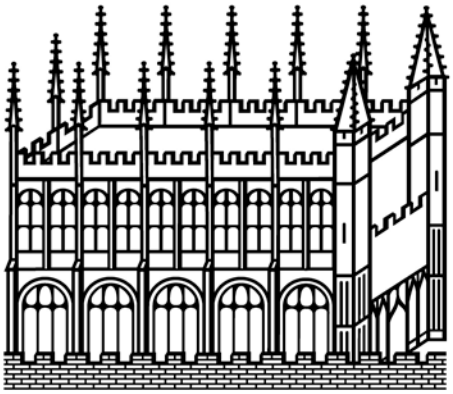

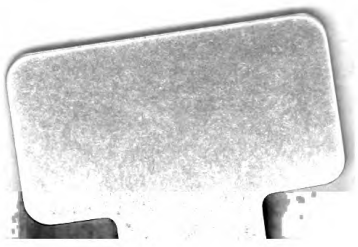

THE DAHLIA:

ITS HISTORY AND CULTIVATION,

WITH DESCRIPTIONS OF

ALL THE BEST SHOW FLOWERS.

BY ROBERT HOGG.

WITH COLOURED PLATES, FROM ORIGINAL DRAWINGS,
BY JAMES ANDREWS.

LONDON:
GROOMBRIDGE AND SONS, 5, PATERNOSTER ROW.
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DESCRIPTIONS OF THE PLATES.

MRS. HANSARD.

EDWARDS'.

THIS beautiful variety, which ranks among the Fancy Dahlias, was raised by John Edwards, Esq., President of the National Floricultural Society; and to that gentleman I am indebted for the following interesting history of this, as he calls it, his "first-born:"—

"In 1848, seeing the difficulty there was in being a successful exhibitor and a successful raiser of seedlings at the same time, I determined to devote all my attention to the latter; and for this end I confined my experiments to one plant only. Having selected *Yellow Standard* for the purpose, I received the earliest fine specimen that plant produced. The bloom thus saved was indeed a real gem; in truth I think I may say I have never seen its equal. It was, moreover, early in the season, and I got my pod thus forward and the seed well ripened. I would here remark that I only saved *that one pod*, from which I saved eleven seeds. These were sown early in the spring of 1849, and each seed produced a plant; each plant grew and flowered during the August and September of the same year, 1849; and if variety really be charming, I must indeed have been charmed, for I had good, bad, and distinct colours. One plant proved a semi-double white self; the second a Fancy, being pale yellow tipped white, with the petals far too long; the third a purple self, in every way similar to a flower then new, called *Samuel Girling*, and which, growing near to it, formed the test of comparison. They shared the same end by being "thrown away." There were two yellow selfs, both with less merit than their parent, and also a yellow with mottled red edges; these, with three others of no merit, and the one now illustrated, completed "the batch." This last was sold for £5. from the seedling-bed to a well-known Dahlia firm trading as "The Metropolitan Union," and was at the time of sale named MRS. HANSARD, in compliment to the wife of the head of that firm. I wintered and worked the root for its owner, making from thirty-six to forty plants; of these I grew at Holloway seven plants, Mr. Turner, of Slough, six plants, and the owner cultivated the remainder in the close vicinity of London, with much, and, as has since been proved, deserved success. The flower was constant, and well tested, for, during the shows of 1849, over two hundred flowers were staged at all the leading Dahlia shows in the country; and from the seven plants under my own cultivation at Holloway, I could have cut from twenty to thirty specimens every week during the season.

In habit it is robust, with fine, bold, dark green foliage, and, unlike its parent, throws its flowers on foot-stalks of sufficient length to show the flowers even when on the plants to much advantage. Its centre stem and lowest side branches attain to great size and substance, indicating strength and vigour, both necessitating liberal encouragement for full development. In addition to good soil, ample surface mulching, occasional application of liquid manure, of soap-suds, and soft water must be given; evening ablutions, through a fine rose, with soft water that has stood in the sun during the afternoon; thorough soaking the soil at least twice a week, with the over-head baths just referred to after the worst heat of the sun has passed away, are items each in themselves of vital importance to the well-doing of our hale, hearty, and honest Floral Lady.

The blooms are large, and entirely free from coarseness, and, even when small, are fit for the choicest six. The centre is most admirable, being tight, compact, symmetrical, and well elevated. Its constancy is now proverbially known. For myself I never saw a petal that was not fairly and distinctly tipped; the yellow is rich, bright, dense, and the white pure, even when but slightly protected: in truth it has but one fault, and that is, a rib or slight fold up the centre of the largest petals.

As a coincidence, I may be allowed to relate that at the Highgate Exhibition in 1849, one bloom was, *par excellence*, the bloom of the year, and I must confess to have felt a little proud to hear it pronounced the best bloom in the room. Nor have these qualities proved fleeting, for in 1852, at the same Society's Exhibition, a prize was offered for the best Fancy bloom in the entire Exhibition, irrespective of age, colour, or growth, and Mrs. Hansard was the flower selected. The bloom was of my own growth, and in truth one of the six to which the First Prize had been awarded. In 1849, when being proved, First Class Certificates were awarded to it at Cremorne Gardens, Stoke Newington, Halstead, The Royal South London, Leamington, Norwich, Shacklewell, Highgate, Grecian Saloon, and Slough. It obtained also various extra money prizes, as at Cremorne Gardens, Leamington, Norwich, Highgate, Shacklewell, and Surrey Zoological Gardens—a measure of success, I may say, full to the very brim. To all these it may be added, that in 1850, '51, and '52 no Fancy Dahlia has been so universally exhibited; and I doubt much if ever a Fancy gave such unbounded and unanimous satisfaction to its purchasers. Nor are its claims even now lessened, for to Mrs. Hansard yet belongs the character of being the very best flower of its class—yellow tipped with white. A four years good character is indeed a trophy of the first class as regards any flower, but of the Dahlia in particular."

SIR JOHN FRANKLIN.

TURNER'S.

RAISED from a constant old buff variety, named Mr. Palmer, in 1851, which, though having a very long flat petal, was very constant, and had a prominent, high, compact centre. Sir John is as constant as his parent, combining high, neat, close centre, with beautiful-shaped petal. The habit is very elegant; the blooms stand erect on long foot-stalks. The plant is about four feet high, of medium size, requires good growth, and to be thinned freely. It is certainly a finely-formed Dahlia, and has been a universal favourite in the season of 1852, having at Highgate taken a first prize for a specimen bloom, and beating all old and new varieties. It was raised by Mr. Turner, of Slough, who is sending it out this season.

It obtained First Class Certificates at the National Floricultural Society, Cheltenham, Hackney, Newbury, Manchester, Maidstone, Teddington, Swindon, Highgate, and Edinburgh.

BRILLIANT.

RAWLINGS'.

THIS was raised by Mr. George Rawlings, of Bethnal Green, near London, in 1851, but its parentage is unknown. It is a scarlet of excellent character, and when properly grown, will be equal to the best in cultivation. As regards colour, Mr. Glenny says it is "exceeding bright, if not the brightest;" but as regards form, Mr. Rawlings, who grew it, having pruned the plants so closely last season, the blooms came too large for exhibition, and consequently it has got the character of being rather coarse. If too strongly grown, it will be too large for show; but if well managed, and all the blooms left to flower, it will then be fit for any stand; and every bloom on the plant will fill well, and be of fine form. Mr. Glenny says "If grown as it might be, it is equal to any select stand."

BRILLIANT was exhibited last year, for the first time, at the National Floricultural Society, the North London, and the Camberwell, where it obtained First Class Certificates. It has been sold by Mr. Rawlings, to Mr. Keynes, of Salisbury, who will have it for sale this season.

PLANTAGENET.

TURNER'S.

THE seed from which this variety was raised was saved from Turner's Mr. Seldon, a constant old flower. The plant bloomed for the first time in 1850, but the root having nearly perished, only three plants were made from it, and these produced some beautiful blooms in 1851, which were successfully exhibited. From the small stock in hand it was retained for another season, when it produced exceedingly fine blooms early, and of a very large size, on which account the plant should not be grown very strong. It is nearly a foot taller than its parent, and the colour is more lilac, as well as shaded. The centre is higher than the old variety, with shorter and neater petals, but not so constant. Height, four feet.

PLANTAGENET received First Class Certificates at Swindon, Highgate, and Edinburgh.

SIR RICHARD WHITTINGTON.

SAINSBURY'S.

THIS noble flower was raised by Charles Sainsbury, Esq., of Swainswick, near Bath, in 1850. Its parent was *Utilis*, a crimson of good shape, but of very dwarf habit. It was introduced to public notice by Mr. Turner, the extensive nurseryman, of Slough, who purchased it of Mr. Drummond, of Bath, to whom it had been disposed of by Mr. Sainsbury. Sir Richard Whittington is a flower of noble habit and shape, the outline being very true, and the petals symmetrically arranged. It is a first-rate variety for exhibition, and also for border cultivation. Height, four feet.

LILAC KING.

RAWLINGS'.

THIS is a noble flower, and not to be surpassed for form. It was raised by Mr. George Rawlings, of Bethnal Green, near London, in 1851, and was exhibited last season, for the first time, at the National Society, in London, and at the Great Open Show, at Edinburgh; on both occasions obtaining First Class Certificates. Last season it suffered under a great disadvantage, in having the blooms perforated with a number of holes, by a small insect which infested the plants from July during the greater part of the autumn. To obviate this in future, if such should occur, the best way is to give frequent waterings overhead, which will effectually remove a continuance of such ravages.

Lilac King requires a generous growth. According to Mr. Glenny it is "a noble First Class show flower, and will bear comparison with all of this numerous class. Colour, rich and dense, and in all the useful points above the average." It was purchased by Mr. John Keynes, the extensive florist of Salisbury, who is now sending it out this season.

DR. FRAMPTON.

RAWLINGS'.

This lovely flower, the favorite of everybody, was raised in 1850, by Mr. George Rawlings, of Globe Road, Bethnal Green, near London. Its parent was a white seedling which was exhibited at the Surrey Zoological Gardens, in 1849, under the name *Purity*, but which proving not to be sufficiently perfect to send out, was destroyed. From this white variety, seedlings to the extent of about five hundred plants were raised; and these produced flowers of almost every hue and shade of colour: some were very dark selfs, others dark ground with white tips, several tricolours, scarlets, and yellows, among which was *Louisa Glenny*, together with numerous whites, and other variously-marked flowers; but the gem of the whole was Dr. Frampton.

In the first year, the plant being weak and late of blooming, the flower showed a disposition to be hard in the eye, a character which, as the raiser considered, was a good indication, as it showed the plant would submit to a good stimulating growth. In the following year, 1851, his expectations were fully realized; as it obtained First Class Certificates wherever it was shown, and also the First Prize as the best seedling of the season.

It is very constant, requires good growth, with considerable thinning and disbudding, as it is inclined to be small, which is its only fault. It delights most in warm weather, and a liberal supply of liquid manure.

As regards form, Dr. Frampton is the most beautiful model of a perfect Dahlia at present to be found.

QUEEN VICTORIA.

WHEELER'S.

It was raised by Mr. George Wheeler, of Warminster, in 1851. Its parentage is unknown, having been produced from mixed seed. During the whole of its existence it has always exhibited the highest characteristics of excellence. Even in the seed-bed in 1851 it produced flowers which were perfect models, but small, from being grown in an unfavourable situation. The same season it was taken to Salisbury, where it was greatly admired, and pronounced likely to be first-rate, which it has

certainly proved to be. It is a strong grower; the foliage is large, and very dark green; foot-stalks, strong and erect. Height, four feet. Mr. Wheeler informs me that his best blooms were grown in rich, light soil, which he thinks suits it best.

This variety has been most successfully exhibited during last season, having obtained First Class Certificates at Salisbury, Royal South London, Bath, Newbury, Manchester, Maidstone, and Trowbridge. It is now the property of Mr. Turner, of Slough, who is sending it out this season.

MISS CAROLINE.

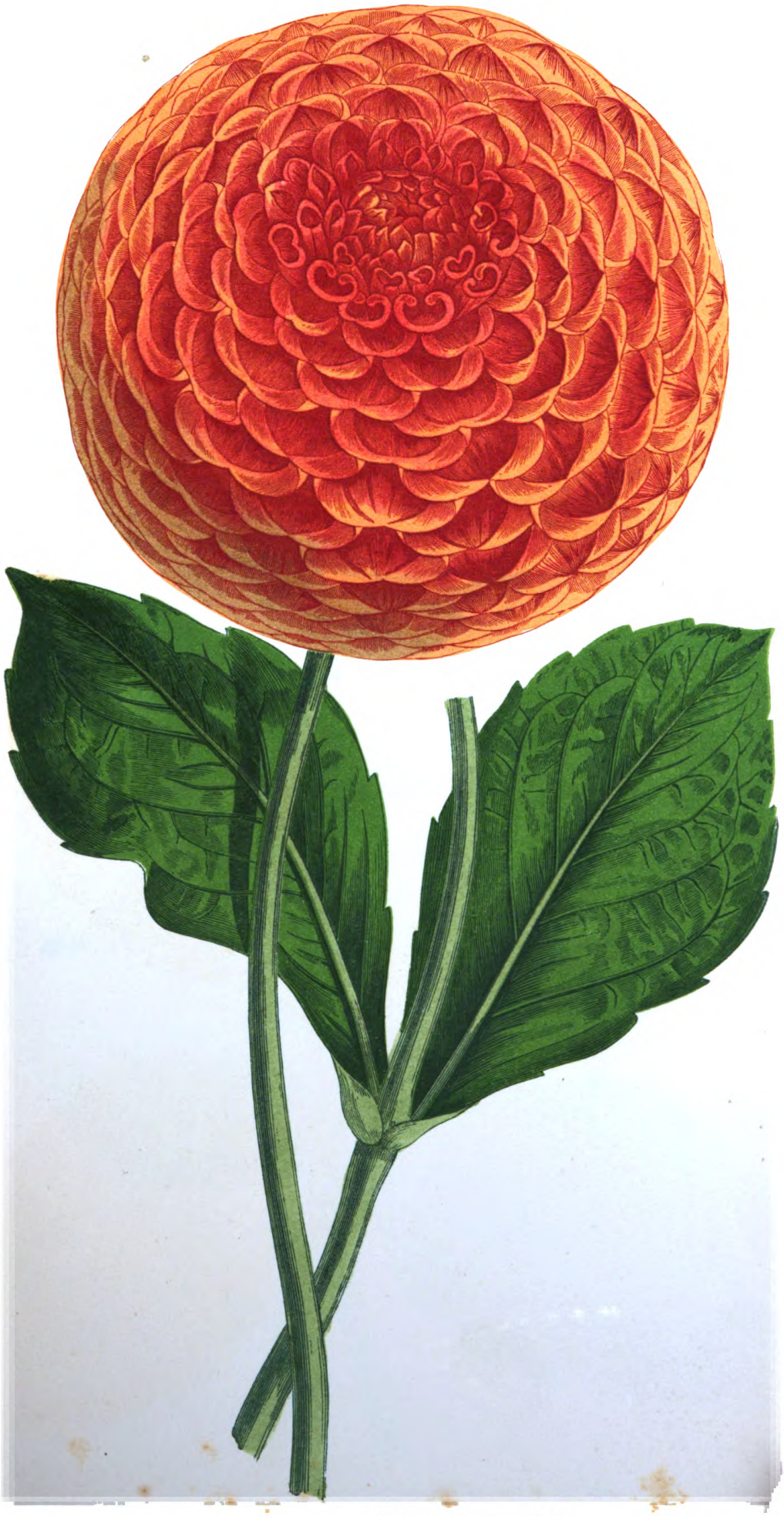
BRITTLE'S.

THIS is a great acquisition to the class to which it belongs, as being the best light Dahlia which has yet been introduced. It partakes of the character of its parent, the Marchioness of Cornwallis, but is more constant than that variety. It was raised by Mr. George Brittle, of Sandy Lane, near Birmingham, in 1850; and when in the seed-bed showed two blooms which gave indication of good character; but the plant was soon cut down by frost. In 1851, Mr. Brittle made only three plants of it, and these bloomed very freely, and exceedingly well; there not being one bad flower on any of them. In 1852, the stock consisted of ten plants; and during that season, Mr. Brittle says "it proved the freest and most constant Dahlia in my garden, out of a variety of two hundred." Height five feet.

It has been well tested during the past season, as the following statement will show:—

Aug. 24, Handsworth, First Class Certificate for Six Blooms.
" " Do. Silver Cup in stand of Twelve Blooms.
" " Do. Silver Medal for Six Blooms.
" 31, Vauxhall, First Class Certificate for Three Blooms.
Sept. 1, Wolverhampton, First Class Certificate for Three Blooms.
" 2, Hackney, First Class Certificate for Six Blooms.
" 7, Midland Floricultural, First Class Certificate for Six Blooms.
" 8, Wellington, First Class Certificate for Six Blooms.
" 9, National, First Class Certificate for Three Blooms.

MRS. HANSARD.



SIR JOHN FRANKLIN. (TURNER.)

BRILLIANT. (RAWLINGS

PLANTAGENET. (TURNER.)

SIR R. WHITTINGTON.

LILAC KING. (RAWLINGS.)

DR. FRAMPTON.

QUEEN VICTORIA. (WHE

MISS CAROLINE. (BRITTLE.)

THE DAHLIA.

HISTORY OF THE DAHLIA.

For ages before even the New World itself was discovered, there existed on the mountain plains of Mexico, a wild, neglected weed, called by the natives *Acocotli*. There, in its native prairies, it performed its part in the great chain of creation, year by year blooming, and fading, and dying, but it attracted no interest, excited no admiration, and imparted no pleasures, unless perhaps its large fleshy tubercules furnished, at some period, a rude meal to the wild and barbarous Toltecans. In course of time the Spaniards occupied Mexico; a new field was opened up for conquest and for science, and, accordingly, we find that every facility was afforded for investigating the natural productions of the newly-acquired territory: of these the vegetable kingdom furnished numerous and interesting examples.

The first naturalist who was sent to explore the hitherto unknown treasures of the New World, was Franciscus Hernandez, physician to Philip the Second of Spain, under whose patronage, and at a great cost the mission was undertaken. In such a country, where no botanist had ever trodden, the success which attended his labours was of course very great. So extensive were his discoveries, and so new and varied were the forms of animal and vegetable existence which he described, the scientific men of that age regarded his statements with suspicion, and in some instances did not fail to express their incredulity in what they supposed to be the traveller's fabulous assertions. Notwithstanding however the opinions which at the time

were current, it is now found that in every particular he was correct in what he had stated. Hernandez did not live to superintend the publication of his discoveries; but after his death they were collected into one large folio volume, profusely illustrated with wood cuts, and entitled "Rerum Medicarum Novæ Hispaniæ Thesaurus." In this work the *Acocotli* is figured in three different forms, and described at considerable length. It is stated to be an herb bearing leaves similar to those of the Mountain Spikenard, *(Valeriana tuberosa*, Wild;*)* which are divided into five leaflets, of which some are sinuated. The flower stalks, which are nine inches long, are slender and smooth; and the flowers pale red and stellate. To this is added an account of its medicinal virtues, which we suspect are more imaginary than real. This then for one hundred and fifty years afterwards was all that was known of this plant; those who believed the report of the traveller knew that such an one existed somewhere in the mountains of Quauhnahuac, but nothing more, for there it was allowed to remain.

It was not till 1789 when Vicentes Cervantes, director of the Botanic Garden at Mexico, forwarded seeds of this plant to the Royal Gardens at Madrid, that it had ever been seen in Europe. The plants produced from these seeds flowered in 1790. At that time the Royal Gardens were under the direction of Abbè Cavanilles, who recognising in this new introduction a genus hitherto unknown in botanical science, applied to it the name of DAHLIA, in honour of M. André Dahl, a Swedish botanist. Among the plants produced in the Madrid garden, Cavanilles discovered, as he thought, three distinct species, all of which he described and figured in his great work, "Icones et Descriptiones Plantarum, &c.," under the names of *Dahlia pinnata*, *rosea*, and *coccinea*, the former of which was a sort of semi-double, but the others proved only to be single flowers. Little progress seems to have been made in their cultivation, and it is doubtful whether any attempt had been made to multiply them from seed, for so long as ten years after their first introduction we find Cavanilles distributing to various Botanic Gardens in Europe, the identical three varieties he had first raised. It was not till 1802 that

they were sent to the Jardins des Plantes, at Paris; and about the same time they were also forwarded to M. Decandolle, at Montpellier. The Gardens of Berlin and Dresden seem to have had them some time before this, for so early as 1800 we have an account of *Dahlia rosea* being sent from Dresden to Berlin. About the period that Cavanilles sent his plants to the Jardins des Plantes, at Paris, the illustrious naturalists Humboldt and Bonpland, in descending from the table land of Mexico towards the coast of the Pacific Ocean, found the Dahlia in a prairie between Areo and Patzcuaro, at a height of nearly five thousand feet above the level of the sea. The plants then discovered were transmitted to the Botanic Garden at Mexico, and in 1804 transferred to the Jardins des Plantes and several other gardens throughout Europe; and among them was found the *D. coccinea* of Cavanilles. On its first reception in 1802, in the Paris Garden, M. André Thouin, director of that establishment, judging from the climate of the country of which the Dahlia is a native, had it placed in a stove and treated as a tropical plant. In 1804 he published an elaborate treatise, illustrated with engravings, in the "Annales du Museum d'Histoire Naturelle," on its culture and management; but from all we can discover it was many years after this before any progress was made in the production of good double flowers.

Till about this period the generic name established by Cavanilles, had been universally adopted by botanists throughout Europe; but Professor Wildenow, of Berlin, labouring under the impression that the name adopted by Cavanilles had been previously applied to another plant by Thunberg, he, in the fifth volume of his "Species Plantarum," discontinued the name of Dahlia and substituted that of *Georgina*, which he founded in honour of Professor Georgi, of St. Petersburgh.* For some years this new nomenclature was pretty generally followed, particularly in Germany and central Europe, and even so recently as in some of the writings of Loudon, in our own country, it was

* In a recent number of the "Revue Horticole," a correspondent goes a long way out of his road to indulge in a spiteful ebullition against "*les Anglais*," because they have, as he says, taken the honour from the Swedish botanist by changing the name of Dahlia to Georgina, in honour of one of their Kings—George!

preserved; but as it was clearly shown that the precedence must be given to Cavanilles, the name of Dahlia was again restored, and still continues, as in all probability it ever will, to be associated with this now justly popular and noble flower.

Several cultivators on the continent, observing the natural disposition of the Dahlia to sport from its original form, began now to direct their attention to raising new varieties, and treating it as a florist flower. Many attempts were made to procure double flowers, but without success. In 1806, the gardener at Malmaison forwarded to the gardener at St. Cloud all the three varieties which were then known, namely, *coccinea*, *purpurea*, and *crocea*. These produced seeds, which were sown, but, notwithstanding all the attempts which were made year after year, they still remained single. In Belgium, however, they were more successful; for we learn that in 1812, M. Donkelaar, botanic gardener at Louvain, having sown a quantity of seed, raised plants which the first year produced all single flowers. Disappointed but not discouraged, he from these saved a second quantity, which in their turn produced semi-double flowers; and emboldened with the success which attended this second essay, he from the best of these semi-double flowers procured a further supply of seed, the produce of which in the following year presented him with three plants which bore flowers perfectly double. These were therefore the first really double flowers which were ever produced. After this there were many varieties raised of all shades and depths of colour, and from this time the Dahlia began to attract for itself a measure of interest which has gone on increasing, and which even at the present day seems to be as great and unabating as if it were a plant of the most recent introduction, and which was still a novelty in the midst of us.

Hitherto we have been treating of the Dahlia as a plant confined exclusively to the continent, it must not however be inferred from this that it was not known and appreciated as soon, and as greatly, in our own country. The first account we have of its introduction to this country was by the Marchioness of Bute in 1789 from Madrid, where the Marquis was then residing as ambassador from England

at the court of Spain. It does not appear that the roots or seeds, whatever they were, had been duly tended or taken care of, for certain it is that it never became generally known, or was ever even partially distributed. In all probability it shared the fate of many hundreds of other plants which at that period were sent home by collectors and travellers to Kew Gardens. The space for the continual accession which were taking place was far too limited, and the consequence was that a large number of the plants perished either from neglect or too much crowding. The same liberal spirit which now exists in that establishment did not prevail in those days, by which new plants are disseminated throughout numerous large public and private establishments in the country; so that if the original plants in the Royal collection should be lost, a fresh supply can always be procured from those to whom they had been supplied. It was not so at the time of which we are writing, and the consequence was, when a plant which was unique died, it was entirely lost to the country. Such was the case with the Dahlia, for besides the mere fact of its introduction, nothing more was known of it till 1804, when seeds were again forwarded from Madrid—on this occasion by Lady Holland. A plant of the *Dahlia coccinea* had however been in the country before this, because John Fraser, the celebrated traveller, who established a nursery in Chelsea, had flowered it in 1803. On the occasion of this second introduction, seeds were forwarded to M. Buonaiuti, who was at that time librarian to Lord Holland, at Holland House, Kensington. This gentleman was successful in raising all the three varieties, and as they flowered they were illustrated in the leading botanical periodicals of that day. Great attention was paid to the cultivation of the Dahlia in this country, and with various degrees of success; but it is only within the last twenty years that it has been brought to that degree of perfection which now constitutes it one of the most attractive of our florist flowers.

Having thus given a sketch of the History of the Dahlia from the earliest period, we shall now, before proceeding to treat of its management, lay before our readers what are the requisites that constitute a perfect flower.

CHARACTERS OF A FIRST-RATE DAHLIA.

ALTHOUGH as regards the characters of the Dahlia, the flower is of the first consideration, still it is a great recommendation to a good flower that the plant should be of a dwarf habit of growth; that is, not exceeding three to four feet high, and the branches stout, without being too numerous, giving the plant a dense and bushy appearance. In treating this part of the subject, we shall consider the form, the colour, and the size which a good flower should present.

1.—FORM OF THE FLOWER. This is the most important feature that attracts the attention of the florist. If the form is deficient in any particular, colour and size, however perfect, cannot render compensation. A perfect flower should present in appearance, when looked down upon, that of a perfect circle; and when looked at sideways it should resemble about two-thirds of a globe, with the centre well filled up with petals. Any tendency to show a hollow or cup-shape in the centre would be a fatal objection. Each petal should be smooth at the edges, without any notch, perfectly round, and without the slightest inclination to be pointed. It should be rather cupped, but not so much so as to show its under side. The guard or bottom petals should be the largest or nearly so, the next tier a little shorter, and the next above that shorter still, and so on continuing up to the centre. Great depth of the petals is also necessary, and each flower should be at least as high as it is wide. In addition to all these points the flower should be very double, every side equally filled with petals, which should be placed alternately so that each will cover the opening which exists below it in the lower tier.

2.—COLOUR OF THE FLOWER. If the flower is a *self*, that is, of one uniform colour, without the admixture of any other, it should be bright and clear, distinct and constant. Each petal from the lowest to the centre should be of the same shade of colour without shading or spotting. Those flowers which are *striped* should have the markings well defined, and should not run into the body colour.

Each stripe should extend to the bottom of the petal, or at least out of sight. *Edged flowers* should have the colour on the edge of the petals as distinct as possible from the body colour. It should be very narrow so as not to be mistaken for a stripe, much in the style of a light-edged Picotee. In those which are called *tipped flowers*, the colour on the tip of the petal should be very distinct from that of the remaining portion, and clearly and cleanly separated from it. *Fancy Dahlias* are those which have the stripes, edges, tips, or spots of a colour lighter than the body colour. Many of these are exceedingly beautiful, but generally speaking there are few of them which have as yet attained to the rank of show flowers. Great progress has however been made of late years in bringing them to a higher degree of perfection as regards form and symmetry; and we doubt not that from what we already have seen, we may ere long hope to see a race of fancy flowers introduced, which will rank in all respects with the best of the self-coloured varieties. Their colours are very attractive, and even now there are few of those in cultivation which are not worthy of a place in every garden or shrubbery.

3.—SIZE OF THE FLOWER. This is also a character to which florists attach considerable importance. There are many very excellent flowers raised, which are afterwards discarded from being wanting in this respect, although they may possess all the other desiderata in an eminent degree. The standard which is now adopted is, that no flower should be less than four, and not greater than six inches in diameter.

PROPAGATION OF THE DAHLIA.

THE various modes by which the Dahlia is propagated are, from seed, by cuttings, by grafting, and by division of the roots.

1.—PROPAGATION FROM SEED. This is one of the most important considerations which can occupy the attention of the florist, as upon it depends the success or failure attending the raising of new varieties; much heed must therefore be given to the sources from which seed is pro-

cured. Some varieties seed much more freely than others, and it very generally happens that the worst flowers produce much more abundantly than others. Unlike most other florists' flowers the Dahlia does not present the same facilities for artificial hybridization, inasmuch as the anthers and stigmas are, in the double flowers, almost invisible. The mode of proceeding is therefore to mark all the best formed flowers by tying a piece of worsted or matting round the flower stem of all those that are intended to be saved for seed. There should be a considerable number so marked so as to render the chances of procuring something good more certain; and not only so, but also to secure a quantity of seed which may be made use of for a subsequent year's sowing, for in some seasons the autumn is so unfavourable, and the frosts set in so early, it frequently happens that only small quantities of seed can be saved. There need be no anxiety regarding the seeds keeping so long, as it is well known that they will retain their vitality for two years at least; and in the event of an unfavourable season for obtaining a crop, the surplus of these previous years, so carefully selected, will be doubly valuable.

As soon as the seed is ripe, which may be known by removing one or two of the coverings or scales, and observing the seeds changing to a dark colour, then cut off the stems which are furnished with seed-pods. These stems should be cut long enough to allow six or eight of them to be tied together in bundles. Gather all that are ripe on the same day, tie them in bundles, and hang them in a dry room where the sun cannot reach them, and there let them gradually dry. As soon as the seed-vessels begin to open, take them down and separate the seed from the husk, laying it on a sheet of paper exposed to the morning sun at the window of a room. When it is thoroughly dry put it into a paper bag, and hang it up in the room till the season for sowing it arrives.

About the middle of February prepare a hot-bed of stable litter, which should be thrown together in a heap. If it be dry throw a few pailfuls of water or the drainage from a dunghill over it. It will quickly begin to ferment, and should be turned over at least three different times,

adding more water or liquid manure, if any part of it should be dry. A week after the third turning it will be ready to make up into a hot-bed. The size of the bed will of course depend upon the size of the frame which is intended to be set upon it. Take the measurement of the frame, and mark the size of the hot-bed by driving in a stake at each corner. These stakes should stand out of the ground as high as the bed is intended to be. In general two and a half to three feet will be enough. When this is done, have a few barrow-loads of the dung which has been previously prepared, wheeled to the spot and laid outside of the stakes. With a three-pronged dung-fork shake the dung well up, and lay it regularly and evenly within the stakes, beating it down with the fork very firmly; but on no account let it be trodden upon, because that would cause it to settle unequally. Proceed adding layer upon layer, beating each layer firmly and evenly down till the desired height is attained. Then place the frame upon it, and shut it closely up till the steam begins to rise; when that takes place, prop up the lights to let off the rank steam, and as soon as that begins to subside, and the heat is moderate, cover the dung with two or three inches of dry coal ashes; it is then ready for the seed. The seed should be sown in wide shallow pans in a light compost, formed of sandy loam and leaf-mould in equal parts and well drained. Sift a portion of the compost to cover the seed, press the soil gently down with a round piece of flat wood, with a nail driven into it for a handle, and then sow the seed rather thinly, but evenly upon it, and cover it a quarter of an inch with the sifted compost, and give a slight watering to settle the soil closely upon the seed.

If there is any spare room in the frame it may be very conveniently made use of for placing the roots of any Dahlias intended to be propagated by cuttings, as also for cuttings themselves. In this moist heat cuttings strike very readily; but of this subject we shall speak more fully in another portion of this treatise. The preparation of the dung and the time occupied till the heat is moderated, will occupy a month or five weeks, so that the time for sowing the seed will be about the middle or latter end

of March, which will give the seedlings plenty of time to come up and attain sufficient strength to allow them to be planted out by the time the spring frosts are sure to be over.

The seed being all sown and placed in the hot-bed, great care must be taken that the internal heat is not too great. If the nights are cold and frosty, it will be advisable to throw a mat or two over the frame, but it must be uncovered again early in the following mornings, when these happen not to be frosty, especially when the seedlings make their appearance. When the sun shines, give them plenty of air, which will strengthen them greatly. If the soil appears dry, give a gentle watering with very slightly-warmed water early on a fine morning; the water should be allowed to stand in the inside of the frame, so as to attain the same temperature. In general, however, it will be found that the moisture arising from the dung will keep the soil moist enough, especially in dull weather: this weather, if of long continuance, will sometimes cause the seedlings to damp off. To prevent this, place a thin piece of wood under the lights at the back, to let off the moist air during the night, and give abundance of air during the day.

When the seedlings have attained two leaves beyond the seed leaf, it will be advisable to transplant them more thinly into other pans in fresh soil, replacing them in the frame till fresh roots are found. By this time the warm days of April will have come, and towards the end of that month, they may be set out of doors under a cradle, formed of hoops and long hazel rods, closely covered up every night with mats or oiled canvas. In this place they may remain well supplied with water, till the weather is mild enough to plant them out where they are to flower.

Prepare a piece of ground for them in an open part of the garden well sheltered from the west and north winds. Plant them in beds four feet wide, in rows two feet wide, and one foot and a half from plant to plant. Place short small sticks to each plant to keep them steady and upright as they grow. It is better to do this at first than afterwards, because in thrusting in the sticks when they have

attained some size, the roots are often bruised and otherwise injured. They will be much benefited by a slight mulching or covering of rotten dung, and must be duly supplied with water in dry weather.

And now is a most anxious time, as, with all this care and attention, they begin to show their flowers. The grower will be watching them daily as the buds appear; and his judgment must be exercised to discover such as are decidedly double, and such as on the other hand are decidedly single, and for this reason, all the single ones should be pulled up at once and thrown away, to give more room for such as are more promising. Here he will be at a loss, unless experienced in such a momentous matter, to know which are sure to be single. Now there is a certain rule to guide him almost as soon as the bud is fully formed, whether the bloom will be a single one. If the top is perfectly flat, and the anthers appear plainly within a single circle of petals, that will surely be a single flower, and it may be discarded at once; but if the bud is rounded at the top, there is a possibility it may be a double flower, and it should be allowed to bloom; but if then the petals are pointed and uneven at the edges, or notched, it may be set down at once as a worthless variety, and should follow its single brethren to the dunghill.

If however the flower is perfectly double, the petals rounded, and all the other good properties of form and colour are satisfactory, though it may at first be rather small, yet it is worth preserving for another year's trial, as size may be obtained in a great measure by superior culture. Then again if one or more seedlings appear with every good property, as described in the first section, let it be nursed with the greatest care, cuttings taken from it as much as possible, and let it be named and exhibited when in good order, and if it wins a prize it will be a treasure. Two or three first-rate seedlings in one year ought to satisfy the raiser for all his pains, and will give him credit and a name amongst his brother florists.

The taking up and storing of seedlings will be exactly the same as for named sorts, directions for which will be given in its proper place.

2.—Propagation by Cuttings. Every one possessing a

new or a good plant is desirous of increasing his stock of it, either for the greater certainty of preserving it for sale, or to exchange with other florists; and this applies to the Dahlia as well as every other plant. Hence it is very desirable to know the best mode of propagating the named varieties by cuttings, slips, grafting, or division, by one or other of which modes, an established variety must be propagated and continued.

In order to obtain cuttings early in the season, it will be necessary to place the roots in heat. The mode of preparing a hot-bed has been described before. When the heat is considerably moderated, the roots should be placed upon the coal ashes, and a thin layer of earth put upon the ends of the bulbs or tubers, leaving the crown where the tubers meet uncovered. This should be done about the first week in March, which is the best time for it. If it is attempted earlier the shoots will be developed weakly and spindly, and will be more liable to damp off when put in as cuttings; and if much later they will scarcely have time to strike and make good plants before the planting season. The internal heat should never exceed 55 or 60 degrees Faht., nor be allowed to sink lower than 50. In this warm, genial, and stimulating atmosphere, they will soon strike root and break their buds. When the shoots have made a leaf or two, are two or three inches long, and are produced in numbers, take hold of one with the finger and thumb, and pull it gently off the bulb without displacing the embryo shoots that may be near it: this is what is technically called a slip. If the bottom is jagged, or any loose spreading part attached to it, smooth this off with a very sharp knife, the slip is then ready for potting; but if there is only one or two shoots on the root, and it is desired to increase it much, then with a sharp knife cut it off just above the lowest pair of buds close to the tuber, and cut the lower part of the shoot close to the lowest joint.

Before slipping or cutting off too many shoots, prepare a pot to receive them. Take a pot about five inches and a half in diameter, drain it well with broken potsherds, upon that put some of the rough siftings, and upon that as much pure loam as will fill the pot to within one inch

of the top, then fill up the remaining inch with pure silver sand; give it a gentle watering to settle the sand firmly, and as soon as the water has sunk into the sand the pot is ready to receive the cuttings. With a neat smooth stick make a hole close to the side of the pot, deep enough to allow about an inch of the cutting within the hole, press the sand firmly to it, and proceed with the next in a similar way till all one kind is put in. Then place a label to it, with either the name or number corresponding with the number in the book kept for the purpose. Proceed with the next variety, labelling each as they are put in, till the pot is filled; then fill the holes up level with dry sand, give a gentle watering again, and set the pot on one side till the leaves of the cuttings are dry. It should then be placed in the hot-bed, and shaded from the sun till roots are formed, which, if the heat is moderately brisk, will take place in a fortnight or three weeks. Some florists prefer putting each cutting into single very small pots; and where the variety is very valuable, and the cuttings scarce, it is a commendable method, but there is this objection to it, the cuttings in single pots take up more room, and the roots are apt to become cramped in such small pots before re-potting.

As soon as there is the appearance of roots being produced, turn the pot carefully upside down, holding one hand ready to catch the ball of earth and the cuttings. Keep each kind separate as they are taken off the ball, and immediately pot all that are rooted, labelling each as the work proceeds. Too much attention to this point cannot be given, in order to have the varieties true to name. Pot them in a rich light compost in three-inch pots, and replace them in the frame. For the first three or four days, should the sun shine, they will require shading from its powerful influence. Mats are generally used for this purpose, but thin canvass is the best material for shading, mats being rather too dense.

Water need not be given at first, but when the surface appears dry, a little may be supplied. As the cuttings grow, less shade may be given and more air, in order to prevent them making weak growths. When the roots begin to extend to the sides of pots, and before they become

matted, they require to be potted again. This time they should be put into five-inch pots, and should either be put into a cold pit or frame, or be put into such a cradle as was directed for seedlings. In either case they should be well covered every night till the danger of suffering from frost is entirely gone. If well managed they will then be nice stiff bushy plants, six inches high, and ready to be planted out when the season for that operation arrives.

3.—Propagation by Grafting. This mode of propagation is now not much used, but it is useful when any variety is difficult to root by cuttings: some few are so, and then grafting is necessary. It is a very simple operation:—Short roundish tubercles should be taken from the root of some common kind, the portion which was attached to the crown cut off to clear away all buds; then with a knife make a groove on one side of the tubercule just the width of the cutting, about an inch long, and a quarter of an inch deep, cutting the bottom of the groove smoothly across; fit the bottom of the cutting to it, and tie it with some good bass mat firm in its place. Pot the grafted tubercule in a suitable sized pot, burying the whole of the tuber under the soil, and leaving the graft just above the surface. Place them in the hot-bed and they will quickly grow, and the graft will probably make roots and tubers of its own, even before planting out; but if not it will be sure to do so during the summer, and thus the variety will be safe.

4.—Propagation by Division. This mode of propagation is useful for the common kinds, and for the pot roots from which cuttings have been taken. Take an entire root and pass a strong knife blade down the centre where the old stem was, press the knife on one side, thus separating the root in two. Be careful not to injure the tubers in doing so, and take care to preserve all the buds; then take the one half, and divide it again, and also the other half, using the same precautions of not bruising or cutting the tubers. In general these four divisions will be as many as will be safe to divide one root into: every division must have at least one bud certain to it, but it is safer to have two. Put these divisions into pots of a size proportioned to the size of the tubers; and if the season is early place them

in such a place where they can be protected securely from frost; but if the season is far advanced, they may be planted out at once where they are to bloom.

Thus far we have described the different modes of propagation, for general collections to be put in practice in the spring, but there are two or three more points to be described, which it will be necessary to attend to in particular cases. First—It is well known that when a new Dahlia is first sent out by a dealer, the price is high: of late years good varieties have averaged ten shillings and sixpence each. When an amateur purchases one or more of these high-priced new varieties, he is naturally anxious to secure and make the most of them. If he obtains the plants the first week in May, the usual time they are sent out, and has a hot-bed at work, he may with the greatest safety take off the tops and put them in as cuttings in the usual way. He has then, if successful, two plants of each, both of which, with good management, will flower in the autumn. Second—Cuttings may be put in till August of these new or any scarce kinds, but these late cuttings will not bloom, neither is it desirable to plant them out at all. They should be kept in their pots through the winter to grow in the spring. These are what are called pot roots, and if judiciously managed, and kept through the winter, are safer for that purpose than ground roots, which are plants that have been grown in the open ground, and which too often perish in the winter through being grown too luxuriantly. It is desirable then to propagate a certain number of every good variety in every collection, expressly for the purpose of having a safe stock of pot roots.

CULTIVATION OF THE DAHLIA.

1.—Soil. Though the Dahlia will grow in almost any kind of soil, yet to produce a large proportion of good show flowers, a sound, deep, dry loam is the best. The situation is a matter of very considerable importance when choice can be made of it. It should not be in low damp places, because in such situations the late spring frosts prevent planting out early, as they might be cut off; and the early autumnal frosts cut them off just when in perfection

of bloom. Then again, if the situation is greatly elevated, the plants are so much exposed to high winds, that at the time of the autumnal equinox, the plants and blooms are so shattered that very few of the latter are fit for exhibition, though ever so well protected. Avoid then if possible these two extremes, and plant the Dahlia in a moderately-elevated situation, sheltered from the north and west winds, either with high hedges of beech or hornbeam, or a plantation at a moderate distance.

Having fixed upon, or been favoured with such a position, let the ground be trenched two feet deep during the winter, laying it up in ridges to become ameliorated and pulverized. In the month of April, as soon as the ground is moderately dry, level down the ridges, and give it a good coating of manure.

2.—MANURES. The best manure for such a soil is good stable-dung well decomposed, and laid on in the spring from two to three inches thick. It should be dug in about a month previous to planting. For soils that are gravelly and dry, well rotted cow-dung would be preferable, on account of its being cooler and more retentive of moisture. In thin moory kind of soil a mixture of loam and cow-dung would be an excellent manure, giving a firmer staple for the roots to take hold of. Some soils contain a large portion of inert vegetable matter, such, for instance, as an old worn-out garden; for such, a good dressing of lime would be serviceable, not only for the Dahlia, but for every kind of flower grown in the open air. Then again, if the soil is of a heavy close texture, a good coating of rough river sand, in addition to the stable-dung, would help to open it. Such a soil should have two or three diggings or trenchings to break it up and open it.

After the plants have attained some growth, they will be greatly benefited by a *mulching* of a yard in diameter round the stem of each plant. This mulching should consist of a suitable manure for the kind of soil the Dahlias are planted in. If a deep loam, a thin covering of littery manure; if hot and dry, then use cow-dung; and if poor and gravelly, a *good* coating of manure from the pigsty has been found very efficacious.

Liquid manures in dry hot summers on poor thin soils are a very useful application. No doubt guano water, not too strong, would be a stimulating and most excellent one. The cultivator must study the kind of soil his Dahlia ground consists of, and apply the right kind of manure accordingly. On reference to the descriptive list we have given at the end, all information will be found respecting those varieties which require this mode of treatment.

3.—PLANTING OUT. No precise day or even week can be fixed on for the time or season of planting. In general the last week in May, or the first week in June, will be suitable for the northern parts of Britain; in the south a week or ten days earlier may be ventured upon for planting. The Dahlia will not, as is well known, bear even a single degree of frost without injury; therefore it is safer to be a week later in planting than to have the young and tender plants injured by late spring frosts. Should there be afterwards the least appearance of a frosty night let the plants be protected. The best and most convenient shelter on such an occasion is empty garden pots turned upside-down over the plants, and removed the next morning, after the sun or warmth of the day has driven off the frost. When it is determined by the cultivator to plant out his stock, see first that the ground is in a right condition: the surface should be dry, and in a good state in other respects.

On planting out Dahlias, *the height that the different varieties attain* should be ascertained, so that the tall growers should be placed the farthest from the walk, and all together in one line; for nothing looks worse than to have three-feet Dahlias growing and blooming amongst such as attain the height of five or six feet. Some florists recommend the stakes to be driven exactly in the place where the plants are to be planted, so that there will be no trampling on the ground afterward, nor any injury sustained by the roots; which would be the case if the stakes had to be driven in after the plants have made considerable growth: this is a good method where practicable. Of course, the tallest stakes must be placed to the tallest growing varieties. As regards *distance between the plants*,

it is never advisable to crowd them too much. The rows should be at least seven feet apart, and the plants six feet from each other in the row; but if the piece of ground be unlimited, these distances may be with advantage increased one foot; there is then plenty of space to walk between the rows, to examine and tie the plants, and perform any other operation that is needful, such as mulching, watering, thinning the branches, and shading the blooms. All these points having been duly considered and performed, then bring to the ground the plants, set out the first row, and take the first plant in the row; make a hole of a sufficient width and depth; turn the plant out of the pot, and plant it exactly in the centre of the hole close to the stake; level the earth round it, pressing it firmly down, and if the plant is tall enough, tie it to the stake loosely with some soft garden matting; then place the label to it and proceed to the next, and so on to the end of the row. When it is completed, commence at the beginning, and take down the names of each in a book, kept for that purpose. By so doing, there cannot possibly occur any mistakes about the names at the time of taking up, unless the very unlikely thing should happen that both the label and book were to be lost. Should the weather and the ground be dry, a good watering to each plant should be given. The first row will then be finished planting, and the ground between it and the next should be forked over with a three or five-pronged fork: this will leave the surface free from footmarks, and open to receive the benefit of the rain, and conduct it down to the roots. Then commence to plant the second row with the next tallest growing varieties, following exactly the same method in every point till every row is planted.

If the plot of ground is square, or even oblong, it might have a walk down the middle, and in such a case the Dahlias should be arranged so as to form a sloping bank on each side of the walk. When in full bloom, they will form a grand appearance, and shew such a galaxy of beauty as few other florists' flowers could produce. Where the Dahlias are grown as much for show in the garden as for exhibition purposes, such an arrangement is worth

adopting, and also the arrangement of the colours; this must however be subject to the more important one of height; still some attention should in such a case be bestowed upon the arrangement of colours, and as that is a matter of taste, it may be safely left to the skill and judgment of the cultivator.

After they are planted they require attention, if not daily, at least every week; this attention consists in keeping the stems, as they advance in height, regularly tied to the stakes. The first ties will probably require to be made loosely, to prevent the stems from being cut with the mat, or being cramped at that place; many fine stems have been broken off with the wind just at the place where the first tie has been made. To prevent this, let the ties be frequently examined, and either loosened or cut through, and a fresh one made. The mulching and watering should also be done before the plants become large, or the flowers begin to appear; the object to be aimed at being to obtain strong healthy plants before the first bloom opens.

4.—Thinning the Branches and Flower Buds. There are several varieties of the Dahlia that produce great numbers of shoots or branches, and such plants require, in order to produce fine large blooms, a considerable number of these branches thinned out; but this must not be done at once. Whenever the plant seems inclined to produce such a number of small side shoots, as would evidently, if allowed to remain, make a dense bush, then reduce them by thinning; but do this gradually. It is impossible to give a definite rule for this operation. The grower must have his eyes open, and exercise his judgment in thinning the shoots. Some varieties grow naturally thin of shoots; such, for instance, as Turner's Miss Vyse, and Mitchell's Mrs. Shelley; whilst Trenfield's Admiral Stopford, Keynes' Lady of the Lake, and the Old Springfield Rival produce abundance of small branches, which must be well thinned out as the plants grow. In general, it may be remarked that such varieties as naturally produce large coarse flowers, may be allowed to have more branches, but such as have small flowers, should be thinned freely to throw the strength of the plant into the shoots that are left, to enable them to bring forth larger blooms. In thinning

the shoots do not break them off, but remove each with a sharp knife, cutting them off close to the stem.

The blossom buds should also be thinned or rubbed off. Some kinds produce such clusters of buds on the ends of the shoots, that, if they are all allowed to bloom, there actually would not be room for them to expand, much less to bring out good flowers. All such should be disbudded severely almost as soon as the buds are visible. This must be done with great judgment and care. One bud to each small branch will be quite sufficient for such free bloomers.

5.—Protection from Insects. The insects or vermin that prey upon the Dahlia are *the snail*, or, as it is commonly called, the slug, of which there are several varieties, all equally destructive. The time when this pest does the most mischief is when the plants are first set out: a good preventive is a circular pan, with a hole through the centre, so large as to allow for the stem to swell to its utmost probable size. It forms a circular basin, which should be kept full of water to prevent the slugs from reaching the plant. For very choice or new varieties such an implement may be used, and if taken due care of will last for many years: for large collections perhaps it would be too expensive to apply to each and every one. Then it becomes necessary to use other means, such as sprinkling quick lime frequently around the plants, and diligently, every morning, searching for the slugs and destroying them.

The next is *the earwig*, a more destructive enemy still, for it preys upon the flower itself just at a time when it is in perfection, and ready for exhibition. For this plague, traps must be set early before the flower buds appear. The very best trap is a small empty garden pot, with a little hay or dry moss in it, turned upside-down, and placed on the top of each stake. These must be examined every morning early, and the insects shaken into a vessel of hot water. As this insect feeds during the night, it is a good plan to look for it with a lantern during that season, catching him at his work of mischief, and destroying him; also set traps of dried bean-stalks, cut across between the joints; into these he will retreat as soon as daylight appears; blow him out at one end into the hot

water, which will quickly finish him. All these means must be diligently followed till all the earwigs are destroyed.

The *green fly* in warm dry summers sometimes attacks the young shoots of the Dahlia, and causes them to curl up by sucking their juices. These are easily destroyed by a syringing or two of tobacco water.

The *thrips* is a very destructive insect to the blooms. When it abounds it sucks out the colour, leaving them spotted, and completely spoils them for exhibition. It prevails most in long continued dry weather. Unfortunately there is no application that will destroy it but will also destroy the bloom, except that of tobacco-smoke, and that is difficult and expensive to apply effectually, requiring a kind of tent made smoke-tight. As dry weather is favourable to their increase, so wet weather is a great preventive against their ravages; therefore the syringe must be called into requisition, and used freely during dry weather every evening. This not only prevents the increase of the thrips, but also the red spider and the green fly. It also freshens the plants, and cleanses the leaves from dust and dirt—points of culture always desirable to be attended to; therefore syringe freely at the close of every dry day, and the good effects will soon be visible in the superior health of the plants, and the size and cleanly appearance of the bloom. In syringing care should be taken not to force the water too strongly upon the blooms, or it would injure them as much as the insects would. It is advisable then to use the syringe in an early stage of growth before the blooms are open; and as the syringing will knock down to the ground considerable numbers of insects, these might be destroyed by raking the ground over immediately after the syringing; the insects then are mixed and daubed with the soil, and effectually destroyed. This raking need not be done more than once a week. Another mode of checking the ravages of this pest is to take a pair of bellows, and blow the blooms strongly with it. The thrips is a jumping insect, and when the wind from the bellows is blown upon it, it will jump away on the ground. If this is done just before the syringe is used, and the ground raked, a still greater number will be destroyed. The zealous amateur, who is anxious and determined to stand first at the exhi-

bition, will not begrudge all this pains and trouble in order to ensure success.

6.—STAKING. Besides the centre stake, which has been already mentioned, it will be advisable to place three or more round large spreading plants to secure them from being broken with the winds, which are apt to prevail during the autumnal months, when the flowers are in their greatest beauty. To these side stakes securely tie the side branches, but be careful the string does not bind the branch too tightly, or the remedy would be as bad as the disease. Yet they must be securely tied, to prevent the branches being broken, or the flowers dashed against each other, or the foliage. This point must not be neglected, or the consequences, should a strong wind arise and find the shoots not tied, would be very destructive both to the plants and blooms. In tying the branches to the side stakes, spread them out as much as possible to allow the air to play freely amongst them.

7.—SHADING. This requires great caution and judgment. Too much shading, or for too long a period, will cause the light-coloured flowers to lose their delicate tints; a lilac would be changed into a bluish, a deep yellow into a primrose, slightly-tipped blooms, as also the edged ones, would lose their delicate marking, and so on. No positive rule can be laid down as to the time the blooms should be shaded, but it may be remarked in general that a week or ten days previous to the day of exhibition, will be quite long enough for the shading to be useful, even in the brightest weather. In dark cloudy weather, and in the earlier part of the season, four or five days will be sufficient. Then again, dark self-coloured varieties require less shading, because the colours are firmer, and better able to bear the full light of the sun than paler or various coloured flowers. This may appear a contradiction to the first sentence on this subject, but it is true notwithstanding. The fact is, there are more flowers injured by too much shading, than by too little; yet shading is necessary and useful, both for bringing out a clearer and more distinct flower, and for protecting the blooms from heavy rains.

The best kind of shade is made as follows:—A box made

of deal, with three sides wood and one side glass, made to open with hinges, the bottom to have a groove cut in it half way across. This groove to be cut from the side where the glass-door is fitted in to open with hinges. This box should be wide, and high enough to allow room for the flower without touching the top, sides, or bottom. When a bloom is so far expanded that shade becomes necessary, either for protection from the sun, or from rain, the box should be fastened firmly to a stake near the flower, and then open the glass-door and bring the flower gently within the box; tie the flower stem to the stake, so as to keep the bloom in the centre of the box, shut the glass door, and fasten it by means of a wooden button turning on it. The glass side should be facing the north, so that no sun can shine upon the flower: any country carpenter could easily make such a shade if properly described to him. Shades can also be made in the form of an umbrella, with a socket on one side to fit upon the stakes. The flower stem should be tied firmly to the stake, so as to bring the bloom directly under the centre of the shade. This kind of shade can either be made of tin, or of a frame work to be covered with oiled canvass.

A cheap kind of shade is formed with garden pots, inverted upon a round piece of deal, with a groove cut in it to allow the stem of the bloom to slide in, carrying the bloom to the centre of the board; when it is fixed there, the pot can very conveniently be placed over it. For some varieties that require a little blanching, this shade, on account of its density, is desirable. Whatever kind of shade is adopted, they must always be contrivances to admit air to keep the blooms cool in hot weather.

8.—WATERING. This point has been already incidentally mentioned. The best water is that which falls from the clouds, conducted from buildings into a tank butt; if this cannot conveniently be had, and the water to be used is hard, it should be pumped into a cistern or tank fully exposed to the air, which softens it and renders it more nutritive for the plants. The ground will, with frequent watering, become baked and hard; it should then be slightly forked over when moderately dry, well watered and mulched over, as previously advised. This mulching keeps

the moisture in the ground much longer, but it will in hot weather become dry again, and then should have a regular good steeping poured upon the mulching, which water will carry down with it a large portion of the fertilizing matter contained in the manure mulching. After a hot dry day, a syringing over the entire plant will be very serviceable in keeping the plants clean, fresh, and healthy, and will, in a great measure, prevent the increase of insects, at least such as feed upon the foliage of the plants after they become of a considerable size. It need scarcely be mentioned that all weeds should be destroyed as soon as they appear, and the ground kept neat and clean.

9.—TAKING UP AND STORING. Under this head the cutting down of the plants will be properly placed. This cutting down should not be performed until the first frosts have completely checked vegetation. For choice, good varieties, it is an excellent plan to place a small hillock of dry ashes round the stem of each plant. This protects the embryo buds both from any sudden severe frosts, and also carries off to a distance the heavy autumnal rains. In wet ground especially, this is a good and useful application, though in high dry land it may not be absolutely necessary. Choose some dry morning, when there is a probability of a dry following day, and cut down the plants to within a foot of the ground. The day following take up all the roots so cut down, and turn them upwards to allow the watery sap to drain from the stems. Bring them in under cover, and see that the numbers or names are all securely tied to the stems with copper wire. Mat or twine is not good for this purpose, because it will soon rot, and the name may easily be displaced or lost—a matter of consequence to such as wish to keep their plants true to name. The roots should all be taken up on the same or the following day, in order to become all dry together, so that they may be put away for the winter at once. Let all the soil be carefully picked out from among the tubers without wounding them.

As soon as they are quite dry, and before they begin to shrivel, fix upon a place to store them away. A dry cellar is the best place, because there is, in such a place, just sufficient moisture to keep the tubers fresh without

shrivelling, and the buds alive. Pack them with their stems downwards, and cover them up with dry clean straw, several inches thick, a layer of roots and a layer of straw between and under each layer of roots. In these winter quarters they may remain till the season for starting them into growth returns. They should be looked over about once a month, and all decaying roots and rotting stems removed, and fresh, dry, straw laid upon them to absorb any moisture: this is the best method of keeping Dahlia ground-roots. Pot-roots should have their tops cut off, and the pots laid on their side in a place where the frost cannot have access to them. If the amateur has a greenhouse, these pot-roots can be conveniently stored away under the stages, laid on one side: no water that may run through the stage from the plants, will injure them. Pot-roots keep better than ground-roots, and therefore it is desirable to have a few of each variety struck later for this purpose.

If the amateur has no cellar for his ground-roots, nor a greenhouse for his pot-roots, he may store the former away in boxes, in a dry chamber, or in any out-building, providing the frost can be kept from them by any kind of covering, such as old carpets or garden mats. In such places they will require more frequently looking over, to remove all decaying roots and stems. Some recommend keeping them in sawdust in such places, but it has been proved that they rot quickly in that material. Others have recommended placing them in a pit covered with turf and soil, in the same way that potatoes, before the disease came upon them, used to be stored. The great objection to this method is the difficulty of examining them, and removing decaying roots, which, if not removed, soon affect the sound ones, and cause them to decay also. Still if the amateur has no other resource, he should adopt some one or other of these confessedly imperfect modes of keeping his ground-roots through the winter. Pot-roots may be more easily managed even under these privations of convenience. Laid on their sides they may be packed in a snug corner, or even against a south wall in the garden, and be thatched over with straw, and thus be perfectly secure both from damp and frost. Dahlias have been known to live through mild winters, but as

such are by no means to be depended upon, real good varieties should not be exposed to such a risk.

PREPARATION OF BLOOMS FOR EXHIBITION.

1.—Choosing the Flowers for Show. After all this trouble and care, there is no little anxiety on the mind of the amateur, as the day of exhibition draws nigh, as to which flowers he will choose for that purpose. He must first consult the rules laid down that determine the properties of a really good exhibition flower, and by these rules determine and judge which are fit for show. Each bloom, previously to cutting it, should be rigidly and severely tried by these rules, and if not up to the mark, discarded. The exhibitor should judge his own flowers quite as minutely and severely, as if he were judging the stands at the exhibition, as a censor. No flowers from the back of which the petals have begun, or are likely, to fade, nor any that are inclined to shew the centre deficient of petals, should be fixed upon to be taken for the stand. Should any such be taken, by the time that the blooms arrive at the place of exhibition, the flowers would be spoiled, and of course unfit for showing, even in such large stands as a thirty-six or even a twenty-four. Choose rather such blooms as are not fully expanded, especially if the journey be a long one. Then again, care should be taken to select a good variety of colours; dark good selfs generally preponderate in collections, but too many of such colours do not look well in a stand. It is advisable, also, to take, if possible, more than one of any variety that is rather doubtful, in appearance, of being able to bear the journey; for the confinement and heat of the box in which they are conveyed, causes them, even if in perfection when they are cut, to open more quickly, and consequently fall sooner than if they had remained on the plants at home.

2.—Conveying the Blooms to the Place of Exhibition. To do this safely, a box must be provided of the following dimensions:—Two feet three inches long, one foot four inches wide, and one foot nine inches deep, with a door

on one side hung with hinges, and furnished with lock and key. This will hold three shelves with twelve blooms on each. These shelves, when drawn out of the box, form the stand to be placed on the exhibition table; each shelf should have four feet—one pair to be shorter than the other, to give the stand a sloping appearance like a writing-desk: these feet are fixed to the shelf by hinges, which allow them to be hooked up close to the under side, and they are then out of the way of the blooms during the journey. Each shelf should have twelve holes bored through it, half-an-inch in diameter, which allows five inches and a half between each—ample space for blooms to stand separated from each other. To these holes must be affixed bottles, which are made of zinc, two inches and a half deep, to hold water, with a broad rim to each: the rim is to be turned back flat upon the shelf. Then provide thirty-six wooden tubes, with each end bevelled off; the hole through the tube must be wide enough to receive the stems of the blooms, even the stoutest, and long enough to stand up above the board at least an inch and a half, and an inch and a half to be placed fitting tight within the bottles: three inches will be a very convenient length for these tubes. When the blooms are cut, each stem should be drawn through a tube, and fastened firmly in it with cotton wool or brown paper, the bottom of the stem should then be cut off the proper length to allow the bloom to be close to the tube, and reach nearly to the bottom of the bottle. The shelves slide into the box in grooves fixed at each end for that purpose. The box should be provided time enough to allow it to receive at least three coats of paint on every part excepting the tubes and bottles, which are better without it.

The attempt to convey flowers of the Dahlia any distance for exhibition, in any other way than in such a box, is sure to fail, thus rendering all the trouble and expense of growing them, a complete disappointment and failure; therefore the additional expense of a box must be incurred. If it be made of well-seasoned wood, and kept painted when it requires it, it will last a man's life-time. Upon an emergency, a box of the above dimen-

sions would carry a stand of thirty-six blooms to compete for that number; but it is advisable always to have a few blooms more than are wanted for the stand, hence the extra number in the box, when twenty-four blooms are to be placed, or staged, is for that purpose. If the tubes are securely fixed, and the stems made tight in them, they will travel several hundreds of miles with perfect safety; even a degree of rough usage, amounting to turning the box upside-down, will not displace or injure them. Immediately on arriving at the journey's end, unlock the box and examine the blooms, to see that all is right and in good order, and if so, close them up again, and place them in a cool place as long as possible before taking them out to place them on the tables. Sufficient time, however, must be allowed to dress the blooms, fill up the bottles with water, if they require it, and to arrange them ready for the censors.

3.—ARRANGEMENT FOR EXHIBITION. The first process is *dressing the blooms*. The implement necessary for this delicate operation is a pair of smooth ivory tweezers. It sometimes happens, in an otherwise perfect bloom, that a few of the petals are a little incurved; and these, with a little delicate dexterity, may be put into the proper shape. Apply the tweezers very softly to such petals, and press them gently outwards or inwards, as they may require it; but be careful to do this very gently, for they will not bear rough handling. Indeed as the grower has taken so much pains in growing, shading, protecting, and conveying his blooms to the place of exhibition, they ought to be in such a state of perfection, as to require almost no further attention; therefore the less dressing they have the fresher and brighter the colours will appear. Still a little dressing, to put ill-formed petals into shape, is allowable, and may be done without injury.

Arranging the colours is a point in which tastes may differ. Some choose to have one row on the stand all dark colours, the next all light, the next dark again, and so on; but such an arrangement is undoubtedly faulty. It may be laid down as a rule that violent contrasts are always to be avoided; a pure white bloom should never be placed by a very dark one, or *vice versâ;* but the colours

should run softly into each other, blending agreeably, so as to form a pleasing appearance to the eye of refined taste Commence then by placing at one corner one of the very best and deepest blooms; supposing this be one nearly black, let the next in the row be a purple, then a scarlet, then a lilac, and next to that a white; the next to the white may be a yellow one, and gradually deepen the colours to the other end. Carry this principle throughout the whole of the stand, contriving so that the colours in the last or front row are reversed; the light ones to be at the end instead of the middle, taking care that the most shapely and deepest of petal blooms are at each end. The various-coloured ones, such as are tipped or edged, or the fancy class, may be placed on any part of the stand, because they contain generally both light and dark colours in the same flower, and will in consequence harmonize with either light or dark blooms. If this arrangement of colours be judiciously managed, the stand will make a beautiful appearance, and the colours will greatly enhance the beauty of the whole.

In order to prevent the blooms from being handled too much, or more than necessary, this arrangement should be made before they are placed in the box to start on their journey, so that when they arrive, there will be nothing to do but to take them out of the box, dress any petals that need such an operation, and change any blooms that may have dropped any petals, or opened their centres. These attentions having been properly applied just in time, place the stand in its appointed place, and leave them to the judgment of the censors. Let the exhibitor then go, and with the consciousness that he has done his duty by them to the utmost of his ability and judgment, rest perfectly contented that he has done his best to win the prize.

The stage on which Dahlia blooms in stands are placed for competition and judgment should not exceed two feet six inches in height from the ground; the back of the stand will be six inches more; and then the blooms will be placed so that the outline of each can be seen perfectly. If placed too high, one side of the flower is not seen; but placed at the height just mentioned, every bloom

can be seen to the greatest advantage. Another evil of being too high, is the difficulty it places the censors in; they cannot do their duty justly without taking the stands down from the too high stage, in order to examine each flower on every side, as well as observing the state of the centres. This unnecessary trouble may be avoided by having the stage or table the right elevation, so that every flower can be judged properly, without touching either it or the stands.

Another point of considerable importance is to have all the stands, however many there may be, of twenty-fours, placed in consecutive order, that is, no twelves, or sixes, or single blooms between the large stands; these should be placed also together, according to their number, and all the single blooms should be arranged in their colours separately, the whites together, and the maroons, and so on through the whole range of colours. The censors can then enter upon their labours with cheerfulness, and go through their difficult task much more quickly and satisfactorily. This duty being over, the exhibitor will soon learn whether he is successful or not; and if the judges are respectable men, which they generally are, or at least ought to be, let him go home perfectly satisfied that he has been fairly beaten, and with a resolution to try again till he is successful also.

GENERAL AND CONCLUDING OBSERVATIONS.

Whoever has attentively observed the introduction of new varieties of this charming autumnal flower, must have been struck with the fact that the greater number of them have been raised by amateurs, and perhaps the reason has not been so apparent. Large growers raise thousands of seedlings yearly, and are sometimes successful, but sometimes not one bloom is worth keeping. The reason of this discrepancy arises from the saving of the seed. The large grower saves his seed indiscriminately, and as the thin poor blossoms produce the finest seed, though the variety may be a good one, yet the saving the seed from the first blooms, which are often thin of petal, renders the seed comparatively

worthless. The amateur, from his collection being small, has more time to remove all such poor blooms at once as they appear, and consequently has seed only from first-rate flowers, perfect in every property. Though his seed may not be so plump or large, it is sure to produce a fair sprinkling of superior blooms. The fine bold seed certainly comes up sooner, and the plants grow more rapidly and sooner bloom; but to what purpose if they are semi-double or ill-formed? The small flat seed on the other hand comes up late, the plants grow weakly, and require great attention in watering, and encouraging with liquid manure, to produce their blooms before the frost sets in. For this reason, the small weak plants should be carefully attended to, as they are the most likely to produce good flowers. Hence it is seldom that the new varieties are exhibited the first year they bloom. Let the amateur then be encouraged to try his skill in raising seedlings, for he has a better chance of success than the large grower. He should never throw away such weak-growing plants, even if they do not flower the first year at all, but keep such and plant them out in the open ground about the middle of April, after the hard frosts are departed. These are sure to bloom strong early in the autumn.

There is another point to be adverted to, which could not well be touched upon in the foregoing sections, and that is the changing of the ground and the plants. If grown for several years in the same ground, and the cuttings taken annually from plants grown in it, they will run their colours, degenerate, and finally become almost worthless. To remedy this, either the site for the Dahlias should be changed, or a large portion of the old soil removed, and fresh soil brought in to mix with the remainder. In the latter case a good covering of quick lime would be of great advantage to mix with the old soil. And if the plants are not in good condition, and likely to be improved by the change of soil, they ought to be renewed also.

A DESCRIPTIVE LIST

OF THE

BEST FLOWERS AT PRESENT IN CULTIVATION.

I.—SHOW FLOWERS.

ADMIRAL.—*Bragg's.* A large pale lilac flower; of good form and outline, and high in the centre. It does not require a high state of cultivation, otherwise it is very apt to be coarse. Height, three feet.

ALICE.—*Drummond's.* This is a beautiful flower when got in perfection. It is of medium size, pink colour, of fine outline, the petals cupped and well-arranged; but the eye too large and loose, and only occasionally and rarely perfect. When cultivated in the neighbourhood of large towns it is very pretty, more so than when grown in the country; but under any circumstances it will not do with exciting growth. Height, three feet.

AMBASSADOR.—*Green's.* This is one of the few dark varieties which are now worthy of cultivation. It is a large flower, and the colour dark maroon; it is full and deep, but rather quilly, and requires strong growth, with plenty of water. Height, two feet.

ANDROMEDA.—*Collison's.* A medium-sized flower; colour, primrose tipped and shaded with pink; petals rather long. This is a good variety for exhibition, but requires a stimulating growth. Height, four feet.

ANNIE SALTER.—*Salter's.* A very constant and desirable show flower; waxy white, deeply tinged with rose on the edge of the petal. It is full-sized, with cupped petals, of good outline, but rather flat. It does not require a too exciting growth. Height, three feet.

ANTICIPATION. The palest lilac Dahlia in cultivation. It is of full size, rather uncertain, and inclined to coarseness, but it is frequently to be had in perfection. Height, three feet.

BARMAID.—*Holmes's.* Early in the season this is delicately tipped with lavender, but later it is greenish white, and often scaly. It requires high cultivation to expand the centre; and it is not suitable for cultivating in the neighbourhood of large towns. Height, four to five feet.

BEAUTY OF KENT.—*Trenfield's.* A medium-sized flower; colour, carmine with white at the base of the petals, which are deeply edged and shaded, and well cupped. This is a very fine flower when got in perfection. The plant is a tall grower, attains a large size before blooming, and requires scarcely any thinning, but a considerable deal of disbudding. Height, four to five feet.

BEES WING.—*Sainsbury's.* A large and useful flower for exhibition. It is of a bright crimson colour, possesses good outline and depth of petal, but is frequently disfigured with a profusion of small florets. On account of its size it does not require a stimulating growth, and should not be too freely thinned. It is well adapted for cultivating in the neighbourhood of large towns. Height, four feet.

CARDINAL FERRETTI.—*Van Renynghe's.* A dark scarlet, and compact flower, possessing a large quantity of small petals which do not always expand sufficiently to qualify it for exhibition; but from its habit and constancy it is a valuable border variety, and in some instances desirable for exhibition. Height, four feet.

COLOSSUS. This is a very large, and, as its name implies, a colossal flower, of a fine rich clear yellow. The petals are cupped and well-arranged, and for the size of the flower, which is, when well grown, six inches in diameter, is anything but coarse. It requires good growth, with little or no thinning or disbudding. Height, four to five feet.

DEFIANCE.—*Rawlings'.* Blush white. A large flower with cupped petals, good general form and outline; rather coarse, but a useful show variety. It succeeds well under almost any cultivation. Height, four to five feet.

DUCHESS.—*Bushell's.* When well grown this is one of the best white Dahlias in cultivation. It succeeds best in wet seasons, requires a free air and rich soil, otherwise the petals are ribbed, with average thinning and disbudding. Height, three feet.

DUKE OF CAMBRIDGE.—*Fellowes'.* Colour, pale lilac. When well grown this is a very desirable variety, but it requires rich soil and considerable thinning and disbudding, otherwise it does not form its petals symmetrically. Height, three to four feet.

DUKE OF WELLINGTON.—*Sainsbury's.* Orange scarlet. A first-rate show flower, of perfect petal and outline, but rather treacherous in the eye. It delights in good generous growth; but for exhibition purposes it should not be grown very strong, or size will be gained at the expense of compactness. Height, three to four feet.

EDMUND FOSTER.—*Turner's* A symmetrical and well-built crimson flower, with great depth of petal, but the centre rather low. Height, four feet.

EL DORADO.—*Salter's.* Pale yellow. Petals well cupped but inclined to show the backs. Though a little low in the eye, it may sometimes be caught tolerably good. It likes warm weather best. Height, four feet.

ELIZABETH.—*Daniels'.* Colour, peach-blossom. The petals of this variety are liable to become ribbed, but they lose this character in wet seasons. It is a strong grower, and does not require much thinning or disbudding. Height, four to five feet.

ESSEX TRIUMPH.—*Turvill's.* This is an old favourite variety of

a deep dark maroon, occasionally very beautifully shaded. Unless well grown this has a very rough outline; but when subjected to high cultivation the petals expand more freely, and form a tolerably good flower. It is very constant. Height, four feet.

FAME.—*Turvill's.* When well grown this is a fine full-sized flower of shaded plum-colour; the early blooms are the best, but the late are confused and rough. It is of strong habit, requires average thinning and disbudding, and succeeds best in a damp season. Height, four to five feet.

FEARLESS.—*Barnes'.* A splendid lilac both in form and colour. The flower is of full size, fine, and symmetrical. The plant is a free grower, succeeds best in strong soils, and requires moderate pruning and disbudding. Height, five feet.

GEM OF THE GROVE.—*Soden's.* Dark maroon, occasionally very richly shaded. A first-rate flower when well grown; compact and well built, high in the centre, but rather inconstant. It requires rich soil and considerable thinning and disbudding, but not too much water. Height, three to four feet.

GENERAL FAUCHER.—*Rose's.* A shaded carmine flower of very beautiful petal and outline, a little low in the centre, but very constant, and of full size. The plant is of free growth, succeeds well in most situations, and requires very little thinning and disbudding. Height, four to five feet.

GEORGE GLENNY.—*Barnes'.* A large yellow, rather coarse, but, if not grown too strongly, is a desirable show flower. It requires no thinning and little disbudding, as it makes very little wood. It is one of the best yellows for town cultivation. Height, three feet.

GOLIATH.—*Turner's.* Buff. A very double and deep flower, requiring good growth to expand the petals. It is not necessary to give it much thinning, but a good deal of disbudding, and also a stimulating growth. Height, five feet.

HONOURABLE MRS. ASHLEY.—*Bragg's.* A medium-sized flower with a white ground tipped with rose. It is of beautiful form and outline, but very seldom perfect in the centre. Height, three to four feet.

HONOURABLE MR. HERBERT.—*Dodds'.* Buff mottled with red. This is a full-petalled flower, well cupped, but apt to be cross-eyed: when well grown it is very fine. The plant requires a little thinning and disbudding, and succeeds in most soils. Height, three feet.

JOHN EDWARDS.—*Salter's.* This is a very light scarlet flower, requiring a strong stimulating growth, otherwise the eye does not expand. Height, five to seven feet.

KANT. A very beautiful, and, when successfully grown, a handsome and well-made flower. It is pure white, the petals rather flimsy and liable to scorch on exposure to the morning sun. Height, three to four feet.

KING OF THE DAHLIAS.—*Morgan's.* Rich crimson, and very beautiful. Of medium size and very fine form. The petals are reflexed and very dense, but the eye is too large. Height, three feet.

LIZZY.—*Perry's.* A very beautifully-formed flower, but small and uncertain; very attractive and pretty, but too small for exhibition.

The colour is a white ground with deep rosy edge and tip. If grown strongly it comes coarse and confused. Height, four feet.

LOUISA GLENNY.—*Rawlings'*. A medium-sized flower of rather uncertain character. It is of a deep dark golden yellow colour, and early in the season has a bronzy tinge; when well grown it is one of the best yellows in cultivation. It requires a rich soil, little water, and considerable thinning and disbudding. Height, three feet.

MAGNIFICENT.—*Keynes'*. Mottled rose. A large and very handsome flower, of first-rate form, which requires a moist soil to have it in perfection. The petals frequently come coarse and confused in the early part of the season; but towards the close, when under the influence of dews and moisture, it is a well-built and splendid flower. A moist and shady situation is the best adapted for bringing this flower to perfection. The plant requires the small wood to be freely thinned. Height, three to four feet.

MARCHIONESS OF CORNWALLIS.—*Whale's*. Blush. A handsome and beautifully-built flower, but very treacherous in the eye. It requires average growth. Height, three to four feet.

MR. SELDON.—*Turner's*. A full-sized and very double flower, with the centre a little low, but which is sometimes up to the surface. The colour is rosy lilac. The plant is of excellent habit, requires a moist season and good growth. This is a general favourite, and when well got a good flower for exhibition. Height, three to four feet.

MRS. SELDON.—*Turner's*. A large light yellow, and when well grown a good variety for exhibition. It is a late bloomer, as it requires to make a considerable deal of wood before it flowers; and as it produces a number of single and semi-double buds, it must be disbudded with great care. Height, four to five feet.

MRS. CHARLES BACON.—*Whale's*. Early in the season this is white tipped with lavender, but as the season advances it fades to a blush. The flower is large and of good character for general purposes, but is more suitable for town cultivation. Height, four to five feet.

MISS CHAPLIN.—*Dodds'*. White tipped and shaded with peach. This is rather a coarse flower with a high centre, and, unless as an addition to the class to which it belongs, it is not remarkable for any great excellence. Height, three to four feet.

MISS SPEARS.—*Lamont's*. A very constant variety and an excellent medium-sized show flower. It is crimson, richly shaded with maroon, and of beautiful form and outline. It requires good growth with plenty of disbudding. Height, four to five feet.

MODEL.—*Fellowes'*. Bronzy brown. In the neighbourhood of large towns this comes coarse and confused, but when expanded with good growth, it assumes a more regular form, and is a valuable addition to a collection as a back-row flower. Height, four feet.

NEGRO.—*Fellowes'*. Dark crimson maroon. A large flower, frequently cross-eyed; but when it chances to be perfect in the centre, it is a very fine flower. The plant requires good growth, with average thinning and disbudding, and a plentiful supply of water. Height, four to five feet.

NIL DESPERANDUM.—*Stein's*. Dull scarlet. A full-sized flower

possessing great depth of petal, but the petals do not always expand enough. It is frequently inconstant, some plants producing all double flowers, and others all semi-double. Height, four to five feet.

NIOBE.—*Voisenon's.* A very large flower; petals well arranged and cupped, white delicately tipped with rosy lilac. This will prove a valuable acquisition for growing in the vicinity of large towns, where it is much improved by the flowers being smaller. The plant requires disbudding. Height, four feet.

PRINCESSE RADZIVILLE.—*Gaines'.* Early in the season this is white tipped and edged with rosy purple, but later it fades to a dull dingy blush. It is large and of compact form, but the petals are reflexed and a little ribbed. A good standard variety for exhibition, and succeeds well both in town and country. The plant requires a good deal of disbudding. Height, four feet.

QUEEN OF BEAUTIES.—*Mitchell's.* This is very uncertain, but when caught is an exquisite flower. It is waxy white tipped with cherry, has a stout and rather long petal, and requires early planting. Height, four to five feet.

QUEEN OF LILACS.—*Turner's.* Silvery peach lilac. This is rather coarse, but, if not grown too strongly, may be had of good form and constant. This is a good variety for town cultivation. Height, four feet.

QUEEN OF THE WHITES.—*Drummond's.* A full-sized flower, rather coarse, but, as regards colour, one of the best whites we have. It is well adapted for growing in the neighbourhood of large towns. Height, two to three feet.

RED GAUNTLET.—*Keynes'.* Dark red. Of medium size, good form and outline, and high in the centre: generally speaking a constant flower, and requires good cultivation. Height, three to four feet.

RICHARD COBDEN.—*Stein's.* A very fine cupped-petalled flower with high centre, but occasionally coarse; colour, dark crimson, occasionally shaded with maroon. This appears to delight in cool moist weather; is a good flower for either town or country cultivation; and should be in every collection. Height, four feet.

ROSE OF ENGLAND.—*Rawlings'.* Rose pink; distinct in colour from any other Dahlia. The first blooms that are developed are somewhat notched, but this peculiarity disappears as the season advances. Unless subjected to a stimulating growth the petals do not expand freely; but when well grown it is an excellent variety, and, from the distinctness of its colour and good habit, is a very desirable acquisition. Height, four to five feet.

ROUNDHEAD.—*Holmes'.* Dull orange buff. Of first-rate form when well grown, but not always certain. Height, four feet.

SCARLET KING.—*Green's.* A large bold scarlet flower rather hollow in the centre, with petals very symmetrical, but inclined to coarseness; it is, however, a useful flower. Height, three to four feet.

SHYLOCK.—*Collison's.* A rich scarlet and high-centred flower possessing a good supply of petals, but requires a good rich soil to expand them. Height, three feet.

SIR CHARLES NAPIER.—*Hale's.* Deep rich scarlet, very full, and of first-rate form. This is one of the best flowers in cultivation, but to have it in perfection it requires to be planted early, in

rich soil, and no blooms allowed to appear on the plant till it has attained considerable strength and vigour; its natural disposition being to bloom early, and consequently weaken its growth. Height, two to three feet.

SIR F. BATHURST.—*Keynes'*. A medium-sized crimson flower, of exquisite shape and great depth of petal; the petals are well cupped and regular; the eye is not always well up to the surface; but, even with any faults it may possess, it is a very first-rate and desirable show flower. The plant requires to be thinned and disbudded freely, as it makes a profusion of small wood and buds. Height, three feet.

SIR F. THESIGER.—*Rawlings'*. Rosy lilac. A medium-sized flower of first-rate form and outline, with remarkably stout petals beautifully cupped. It is not good early in the season, as the petals are a little rough; and it sometimes possesses the same fault as the Duke of Wellington and Sir R. Peel, in not always closing in the centre. The plant is of peculiarly handsome and noble growth, and requires to be closely thinned and disbudded. Height, three to four feet.

SIR R. PEEL.—*Drummond's*. A medium-sized flower; vermilion with a very slight bronze tip. The petals are even and symmetrical, beautifully cupped, and a splendid model when perfect, but not always full in the centre. It requires a rich soil. Height, four to five feet.

STANDARD OF PERFECTION.—*Keynes'*. An old variety which is very uncertain and blooms variously, but when well caught is an excellent show flower. Its colour is crimson. Height, three to four feet.

SUMMIT OF PERFECTION.—*Keynes'*. Dark purple. This flower possesses great depth of petal, beautifully cupped and high in the centre. If not overgrown it is a perfect model; but if attempted to be grown large it is flat and unattractive. Height, three to four feet.

TRIUMPHANT.—*Keynes'*. A well-formed flower, but rather low in the centre. Its colour is crimson, occasionally tipped with white, and is suitable to be shown either in a fancy or show class. It must be grown strongly, and closely thinned and disbudded, otherwise it will be under-sized. It is of good habit, and attains the height of four feet.

UTILIS.—*Drummond's*. Puce. Rather under medium size; of good form and outline, and the petals well cupped. Height, three feet.

WHITE STANDARD.—*Brittle's*. Blush white. A well-formed flower of the Marchioness of Cornwallis class, possessing great depth of petals, which are well cupped; rather low in the eye, and requires good growth with plenty of water. It succeeds best in an open situation, and requires a great deal of thinning and disbudding. Height, three feet.

YELLOW STANDARD.—*Keynes'*. Very uncertain, but when perfect of beautiful form and outline. It does not throw its flowers well above the foliage, consequently it requires a great deal of cutting out and disbudding. Height, two to three feet.

II.—FANCY FLOWERS.

WHAT are termed Fancy Dahlias, are those which are tipped, edged, or shaded with a colour lighter than the prevailing colour of the petal.

ALBERT LORTZING. Orange tipped with white. Of good form and outline, and a desirable variety. Height, three to four feet.

BELLE DE PECQ.—*Miquet's.* Creamy yellow tipped with white, spotted and striped with red. It requires a stimulating growth, otherwise it will be small and quilly. When grown well it is a useful flower, but not suitable for town cultivation. Height, three feet.

COQUETTE DE PECQ. Rose tipped with white. Of good form, but inclining to be hard-eyed, and therefore requiring a free growth with plenty of water. Height, four feet.

EMPEREUR DE MAROC.—*Huidoux's.* Dark maroon slightly tipped with French white. Of very fine form, high centre, and a very fine variety. It requires exciting growth. Height, three feet.

ELIZABETH.—*Procter's* Lilac tipped with white. Of good form, with high centre, and requires a stimulating growth. Height, four feet.

FLORA Mc IVOR.—*Keynes'*. Purple tipped with white. Of good form and outline, constant in colour, and a desirable show flower. Height, four to five feet.

FLORAL BEAUTY.—*Whale's.* Crimson tipped and edged with white. Of good form, with cupped petals, and a very pretty variety. Height, four feet.

FORGET-ME-NOT.—*Hooper's.* Purple edged with white, and the colours very striking. Of compact form, but the centre not always good; when perfect, however, it is a fine variety. Height, four feet.

GASPARINE.—*Sieckmann's.* Dark cherry brown tipped with pure white. This is a very attractive variety for its colour, but it is not good in form. It must be planted early, as it is a shy bloomer. Height, four to five feet.

GLOIRE DE KAIN.—*Cailloux's.* Pale lilac spotted and striped with dark maroon. This is a good-formed flower; petals tolerably well cupped, high centre, very constant in colour, and a very desirable variety. Height, four to five feet.

HIGHLAND CHIEF.—*Keynes'*. Salmon tipped with white. A large flower inclining to be coarse, and therefore must not be too strongly grown. Height, four to five feet.

JENNY LIND.—*Girling's.* Crimson tipped with white; colours brilliant. This is of pretty good form and outline, and a useful variety. Height, three feet.

KEEPSAKE.—*Barnes'*. Dull red tipped with white. Of pretty good form and high centre. Height, three feet.

KINGFISHER.—*Turner's.* Salmon tipped with white. Petals cupped but the flower rather flat. Height, four feet.

LADY GRANVILLE.—*Bragg's.* Red tipped with white, and rather uncertain in colour. It requires good growth, and then it is a useful flower. Height, three feet.

LAURA LAVINGTON.—*Keynes'*. Dull fawn tipped with white, but

frequently without the tip. It is one of the best formed of the Fancy varieties. Height, three feet.

LE PAON.—*Tassart's.* Dark orange spotted and striped with red. It is large and full, but the petals do not generally expand sufficiently; it is, however, occasionally to be got good, and, on account of its dwarf habit, is a desirable variety for borders. Height, two to three feet.

LILLIPUT VAN BEYROUTH.—*Funke's.* Blood red tipped and edged with white. This variety is of good form, and a good show flower. It requires thinning and disbudding. Height, three feet.

MADAME ROSE.—*Milliez's.* Rose tipped with white. Colours bright; petals cupped, but at times rather loose. This is a beautiful variety for the border. Height, three feet.

MADAME WACHY.—*Wachy's.* Crimson tipped with white. This requires good growth, otherwise the petals are quilly. It is of very dwarf habit, and on that account well adapted for border cultivation. Height, two to three feet.

MAID OF LODI.—*Lewis'.* Dull scarlet tipped with white. Petals cupped; of good form and high centre. Height, three feet.

MISS BLACKMORE.—*Dodds'.* Purple tipped with white; colours bright. This variety is of good form, but is uncertain in the eye. Height, three feet.

MISS COMPTON.—*Liddiard's.* Salmon scarlet tipped with white. This is a flower of good form, but a shy bloomer. It requires early planting and good growth. Height, four to five feet.

MISS WEYLAND.—*Union's.* Amber tipped with white and edged with red. It is large and rather coarse, but novel, and a good variety for the border, as the habit is very dwarf and the colour constant. Height, two to three feet.

MISS STEVENS.—*Dodds'.* Pink tipped and shaded with white. A very pretty and compact flower. Height, three feet.

MISS WARD.—*Turner's.* Pale yellow tipped with white. This is uncertain and apt to be quilly, but occasionally fine. Height, four to five feet.

MRS. WILLIS.—*Liddiard's.* Maroon tipped with white. Of good form, full size, and a desirable flower. Height, four feet.

M. CHOVEREAU.—*Roberts'.* Violet tipped with white. Constant in colour, but not good in form. From its fine colour it is a good border flower, but not sufficiently so for exhibition. Height, four feet.

NANCY.—*Keynes'.* Dull red tipped with white. Of fine form and outline, but inclined to be hard-eyed. It requires good growth and plenty of water. When well grown this is a fine variety. Height, three feet.

PHAETON.—*Miquet's.* Rose tipped with white. A finely-formed and constant flower, with bright colours. It requires good growth and plenty of water. Height, three feet.

PICOTTEE. Sulphur striped with crimson. A large and distinct variety. Height, four feet.

PICTURATA.—*Barnes'.* Cream margined with scarlet; but so varied in character that the same plant produces some flowers entirely scarlet, others entirely cream, with all intermediate shades and markings. An excellent and attractive border flower. Height, three feet.

POSTE-SECRETAIRE HAINE.—*Deegen's.* Purple tipped with pure white; colours distinct and attractive. It is rarely sufficiently good for a show, but excellent for borders. Height, three feet.

PRINCESS CHARLOTTE.—*Miquet's.* Purple and white. A large flower with high centre, but very difficult to get perfect, being very quilly. It requires very high and stimulating cultivation. Height, four feet.

RACHEL.—*Gaines'.* Rosy purple edged and tipped with white. The flower is very large, but, if not disbudded, produces some very nice blooms. It is a useful show flower, and good for border cultivation. Height, four feet.

RAINBOW.—*Keynes'.* Red tipped with white. An old favourite with high centre. Height, three feet.

REINE DES BELGES. Lavender striped and spotted with rose. A large flower with cupped petals, a good eye, and very constant in colour, but apt to show the backs of the petals. It is of good habit of growth and a great addition to its class. Height, four to five feet.

REINE POMARE. Light scarlet tipped with white. It is not first-rate in form, but showy in colour, and is more adapted for a border than a show flower. Height, three feet.

REMBRANDT.—*De Knyff's.* Orange spotted and striped with red. A large cup-petalled flower, rather inclined to be ribbed, but is a desirable variety of its class. Height, four to five feet.

STRIATA PERFECTA.—*Batteur's.* Lavender striped with rose. This is very apt to come self-coloured, but when perfect is an attractive and good variety. It must be planted early, as it is a shy bloomer. This, like the generality of the Fancy varieties, should be planted in poor soil, and then the flowers are not so likely to come self-coloured. Height, three feet.

TRIOMPHE DE MAGDEBURG. Bright scarlet tipped with white. An uncertain flower, but at times got very pretty. Height, four to five feet.