

*

UMASS/AMHERST

*



312066 0333 2909 6



**UNIVERSITY OF MASSACHUSETTS
LIBRARY**

LIBRARY

UNIVERSITY OF
MASSACHUSETTS

AMHERST, MASS.

Mass. Ag. College

No. 593

From the Library of
Saml. Lincoln,
presented by Mrs. S.

1870

1871

THE MAGAZINE
OF
HORTICULTURE,

BOTANY,

AND ALL USEFUL DISCOVERIES AND IMPROVEMENTS IN

RURAL AFFAIRS.

“Je voudrais échauffer tout l'univers de mon gout pour les jardins. Il me semble qu'il est impossible qu'un méchant puisse l'avoir. Il n'est point de vertus que je ne suppose à celui que aime à parler et à faire des jardins. Pères de famille, inspirez a jardinomanie à vos enfans.”—*Prince de Ligne.*

VOL. XXIX.

1863.

(VOL. IV., FOURTH SERIES.)

EDITED BY C. M. HOVEY.

AUTHOR OF THE “FRUITS OF AMERICA.”

BOSTON:
PUBLISHED BY HOVEY AND CO., 23 KILBY STREET.
1863.

C
Per
1127

1129

HENRY W. DUTTON & SON, PRINTERS,
90 AND 92 WASHINGTON STREET.

CONTENTS.

ORIGINAL COMMUNICATIONS.

GENERAL SUBJECT.

The Progress of Horticulture. By the Editor, 1	
Retrospective Glances into the London Horticultural Transactions, 11, 56, 94, 134, 177, 208, 253, 289	
Variety in Pleasure Grounds. By Rev. A. D. Gridley,	63
American Pomological Society. By the Editor,	125
Ptelia trifoliata as a substitute for the Hop. By Dr. J. P. Kirtland,	184
The Rhododendron and Azalea. By the Editor,	205
The Vegetable Garden. By the Editor,	285
American Plants. By the Editor,	325
Rockwork and Hanging Plants. By Wilson Flagg,	329
Thoughts about Varieties. By the Editor,	365
Some Remarks on Weeds. By W. Flagg,	411
Variety in our Gardens and Grounds. By the Editor,	445
Wayside Shrubbery. By Wilson Flagg,	451

HORTICULTURE.

Pruning and Management of the Peach-Tree. By Sheldon Moore,	90
Seedling Fruits. By the Editor,	45
A Few Words on Peach Trees in Pots. By John Falconer,	60
Western Beauty Apple. By Wm. Kenrick,	73
Seedling Plums. By the Editor,	85
Pruning and Management of the Vine. By Sheldon Moore,	101
Peaches without Glass. By James Weed,	116
A few more Words on Peaches in Pots. By John Falconer,	139
Fruit Culture in Massachusetts. By the Editor,	165
Seedling Raspberries and Strawberries. By the Editor,	245
Descriptions of Select Apples. By the Editor,	260
Red Russet,	260
Wagener,	261
Cider,	262
The Homewood Pear. By W. C. Wilson, Esq.,	386

The Popular Fruits. By the Editor,	405
Descriptions of Select Varieties of Pears. By the Editor,	297, 387
Beurré Six,	297
Beurré Burniceq,	299
Homewood,	300
Hageman,	388
Madame Eliza,	389
Lycurgus,	391
Peaches without Glass. By James Weed,	327
New Grapes. By Samuel Jordan,	339
Budding and Inarching Grape Vines. By the Editor,	425
Garden Gossip,	264, 350
Pomological Gossip, 72, 110, 142, 186, 215, 258, 294, 331, 379, 417	
The Edmonds Pear. By P. Barry,	461

ARBORICULTURE.

Notes on Thinning Ornamental Plantations. By H. H. Munnewell, Esq.,	26
Arboricultural Notices,	165, 302, 423

FLORICULTURE.

In-Door Gardening. From the Gardeners' Chronicle,	29
Window Gardening. From the Gardeners' Chronicle,	76
Roses. By William Paul,	144
Tagetes Signata Pumila. By the Editor,	157
Autumnal Pansies. By William Paul,	189
Rodanthe Manglesi Maculata. By the Editor,	194
Bourbon Roses. By William Paul,	213
The Tea Roses. By William Paul,	267
Stray Notes about Flowers. From the Gardeners' Chronicle,	310
Enothera Lamarkiana. By the Editor,	343
Florists' Flowers. By Wilson Flagg,	373
The Pelargonium. From the Gardeners' Chronicle,	392
The Fancy Pelargonium. From the Gardeners' Chronicle,	427
Floricultural Notices, 33, 119, 152, 222, 272,	312, 340, 430

LIST OF ENGRAVINGS.

TREES AND PLANTS.		FRUITS.	
fig.	page.	fig.	page.
17. <i>Ænothèra Lamàrkiana</i> ,	349		
10. <i>Rodánthe Manglèsii maculàta</i> ,	195		
9. <i>Tagètes signàta pùmila</i> ,	158		
OPERATIONS.		APPLES.	
21. Budding the Grape,	426	13. Cider,	263
3. Improper Mode of Pruning the Peach,	24	11. Red Russet,	260
1. Pruning the Peach to regulate the Sap,	23	12. Wagener,	262
2. Pruning the Peach to regulate the Sap,	23	7. Western Beauty,	75
4. Pruning the Peach for Formation of Wood,	25		
5. Suppressing the Wood Buds of the Peach,	25	PEARS.	
6. Suppressing the Wood Buds of the Peach,	25	15. Beurré Burnicq,	299
8. Thorny System of Pruning the Vine,	104	14. Beurré Six,	298
		13. Hageman,	388
		16. Homewood,	301
		20. Lycurgus,	391
		19. Madame Eliza,	390
		22. Edmonds Pear,	462

LIST OF PLANTS.

In the body of the Magazine, a few errors occur in the spelling of the botanical names, the capitalizing the generic and specific names, their derivation and accentuation; these are all corrected in the following list of plants:—

List of Nymphæas,	94	List of Coniferous Trees,	265, 308
List of Moss Roses,	147	List of Herbaceous Pæonies,	281
List of French Roses,	149, 282	List of Pyrethrums,	341
List of Autumnal Roses,	190, 282	List of Hardy Herbaceous Plants,	354
List of Bourbon Roses,	215	List of Phloxes,	360
List of Tea Roses,	268	List of Gladiolus,	362
List of New Plants of 1862,	152	List of Fancy Pelargoniums,	430
List of Annuals,	230	List of Prize Chrysanthemums,	464
List of Plants for Hanging Baskets,	236	List of Prize Dahlias,	464
List of Plants,	242, 272, 309, 440		
<i>A'bies Albertiàna</i> ,	302, 308	<i>A'pïos tuberòsa</i> ,	354
<i>amàbilis</i> ,	309	<i>Aralia racemòsa</i> ,	354
<i>canadènsis argèntea</i>	424	<i>Arca dealbàta</i> ,	273
<i>Kelleyi</i> ,	107, 309	<i>Asplenium flabellulatum</i> ,	156
<i>Douglàsii</i> ,	106, 274	<i>myriophyllum</i> ,	156
<i>firma</i> ,	107	<i>Athyrium Felixæ'mina dif-</i>	
<i>gràndis</i> ,	107	<i> fissum</i> ,	275
<i>Menzièsi</i> ,	107, 309, 354	<i>Azàlea calendulàcea</i> ,	207
<i>Mertensiana</i> ,	302, 308, 309	<i>nudiflora</i> ,	354
<i>nigra</i> ,	107	<i>pòntica</i> ,	207
<i>nòbilis</i> ,	309	<i>variegata</i> ,	29
<i>taxifolia</i> ,	302	<i>viscosa</i> ,	327, 354
<i>Tsuga</i> ,	106	<i>indica</i> , <i>Reine de Beaufes</i> ,	435
<i>Veitchiana</i> ,	106	<i>Arctium Lappa</i> ,	416
<i>Abròbra viridiflora</i> ,	120	<i>Bellis prolifera</i> ,	375
<i>Abùtilon venosum</i> ,	76	<i>Biota orientàlis Verschaaffeltii</i> ,	122
<i>Acerolinum roseum</i> ,	230	<i>Bidens frondosa</i> ,	417
<i>Actæa àlba</i> ,	354	<i>Bádillea globosa</i> ,	215
<i>rùbra</i> ,	354	<i>Calàdium Baraquini</i> ,	440
<i>Adliàntum chilènze</i> ,	154	<i>Belléymei</i> ,	440
<i>Fèei</i> ,	155, 273	<i>argyrites</i> ,	399, 440
<i>sulphureum</i> ,	154	<i>bicolor</i> ,	440
<i>Agapànthus umbellatus</i> ,	215	<i>Chàntini</i> ,	399, 440
<i>Agave schidigera</i> ,	228	<i>Devonidatum</i> ,	121
<i>Agèratum ageratoides</i> ,	354	<i>Lemairedatum</i> ,	36, 273
<i>Alocasia Lówi</i> ,	273, 431	<i>Lówi</i> ,	348
<i>zebrina</i> ,	155	<i>macrophyllum</i> ,	37
<i>Amaràntus blitum</i> ,	415	<i>mirabile</i> ,	228, 273
<i>hybridus</i> ,	415	<i>picturàta</i> ,	399, 440
<i>Ambròsia elàtiar</i> ,	415	<i>regale</i> ,	37
<i>Aúcuha limbàta</i> ,	153	<i>splendidum</i> ,	121
<i>picturàta</i> ,	153	<i>Veitchii</i> ,	155
<i>japónica</i> ,	215	<i>Calceolària ericoides</i> ,	33, 154
<i>Anthùrium leuconeurum</i> ,	37, 272		
		<i>Calla æthiòpica</i> ,	76, 214
		<i>Calliòpsis Drummondii</i> ,	230
		<i>tinctòria</i> ,	230
		<i>Calystegia sèpium</i> ,	354
		<i>Camellia japónica var. Baron</i>	
		<i>de Vriere</i> ,	347
		<i>Cora L. Barton</i> ,	121
		<i>Comtesse Laviani Maggi</i> ,	224
		<i>Bella Romana</i> ,	226
		<i>tricolor imbricata flore</i>	
		<i>pleno</i> ,	236
		<i>Vicompte de Nieuland</i> ,	434
		<i>Càssa Annei</i> ,	235
		<i>indica</i> ,	215, 236
		<i>pàtens</i> ,	214
		<i>Caragana arborèscens</i> ,	447
		<i>Catàpa Kæ'mperi</i> ,	120
		<i>Cælogyne lagenària</i> ,	346
		<i>Cephalotàxus Fortùnèi</i> ,	265
		<i>Cèrus pterogònus</i> ,	225
		<i>Chenopodium àlbum</i> ,	416
		<i>Cibotium princeps</i> ,	155
		<i>Cissus discolor</i> ,	399
		<i>Clàrkia pulchèlla pulchèma</i> ,	231
		<i>flore pleno</i> ,	231
		<i>Clématis flòrida Standishii</i> ,	272
		<i>Fortùnèi</i> ,	272
		<i>reginæ</i> ,	163
		<i>Clerodendron Thomsònæ</i> ,	155
		<i>Cobœa scandens</i> ,	31, 236
		<i>Codonòpsis cordàta</i> ,	346
		<i>Còleus atropurpùreum</i> ,	222
		<i>nigricans</i> ,	274

<i>Coleus Verschaffeltii</i> , 222, 399, 431	<i>Lobelia begoniifolia</i> , 236	<i>Pteris triflorata</i> , 29
<i>Collinsia bicolor</i> , 331	<i>gracilis</i> , 236	<i>Pyenostachys urticaefolia</i> , 314
<i>candidissima</i> , 231	<i>syphilitica</i> , 354	<i>Pyrethrum delicatense</i> , 343
<i>múlticolor</i> , 231	<i>Lomaria gibba</i> , 154	<i>Princess Alexandria</i> , 343
<i>Convolvulus maior</i> , 230	<i>Lonicera brachypoda aureo-reticulata</i> , 153	<i>roseum album</i> , 343
<i>minor</i> , 230	<i>Lycaste Skinneri</i> , 29	<i>var. var.</i> , 343
<i>Cornus florida</i> , 447	<i>Lychnis Senno</i> , 313	<i>Polygonum aviculare</i> , 413
<i>Corysanthes limbata</i> , 225	<i>Lycloplisium pubiflorum</i> , 347	<i>hydropiper</i> , 413
<i>Cosmidium Burrldgii</i> , 231	<i>Lygodium scandens</i> , 29	<i>persicaria</i> , 413
<i>Crataegus pinnatifida</i> , 105	<i>Lysimachia nummularia</i> , 329	<i>Portulaca oleracea</i> , 414
<i>Cupressus Lawsoniana</i> , 265	<i>Malope grandiflora</i> , 231	<i>Thellusoni</i> , 231
<i>variegata</i> , 424	<i>Maranta albo lineata</i> , 399	<i>splendens</i> , 231
<i>Cypripedium Hookeræ</i> , 226	<i>Menyanthes nymphoides</i> , 94	<i>Pyrus umbilicata</i> , 424
<i>Stonei</i> , 347	<i>trifoliata</i> , 94	<i>Quercus Garryana</i> , 309
<i>Coccoloba platyclada</i> , 433	<i>Mesembryanthemum glauciale</i> , 332	<i>Reinckia carnea fol. variegata</i> , 122
<i>Dendrobium Parishii</i> , 274	<i>Mitchella repens</i> , 332	<i>Retinospora ericoides</i> , 265
<i>Deutzia crenata flore pleno</i> , 305	<i>Mimulus moschatus</i> , 333	<i>pisifera</i> , 106
<i>Dichorizandra argenteo-marginata</i> , 274	<i>Mikania speciosa</i> , 399	<i>squamulosa</i> , 106
<i>Dieffenbachia Verschaffeltii</i> , 273	<i>Monochaetum Humboldtianum</i> , 344	<i>Rhododendron volubile</i> , 236
<i>Diplacus glutinosus</i> , 318	<i>Musa vittata</i> , 155	<i>formosum</i> , 434
<i>Disandra prostrata</i> , 215	<i>Nelumbium luteum</i> , 95	<i>Rhododendron lapponicum</i> , 355
<i>Dolichos lignosus</i> , 236	<i>speciosum</i> , 95	<i>maximum</i> , 354
<i>Dorstenia maculata</i> , 434	<i>Nidularum Innocentii</i> , 223	<i>Minnie</i> , 38
<i>Eupetrum nigrum</i> , 354	<i>Nuphar advena</i> , 95	<i>Souvenir de Jean Bils</i> , 156
<i>Eucephalartus horridus trispinosus</i> , 346	<i>Kalmiana</i> , 95	<i>Verschaffeltii</i> , 156
<i>Erigeron canadense</i> , 415	<i>lutea</i> , 95	<i>Rivina humilis</i> , 30
<i>Erysimum Peroffskianum</i> , 231	<i>minima</i> , 95	<i>Rodanthe atrosanguinea</i> , 153
<i>Eschscholzia crocea</i> , 231	<i>Nymphaea alba</i> , 94	<i>maculata</i> , 153, 157, 194, 231
<i>Euonymus ovatus aureo-variegatus</i> , 275	<i>carulea</i> , 95	<i>Rosa berberifolia</i> , 377
<i>Euryale ferox</i> , 95	<i>lotus</i> , 95	<i>centifolia</i> , 377
<i>Ficus Cooperi</i> , 154	<i>nitida</i> , 94	<i>spinosissima</i> , 376
<i>Gaultheria procumbens</i> , 355	<i>odorata</i> , 94	<i>Rumex acetocella</i> , 412
<i>Gazania splendens</i> , 236	<i>minor</i> , 94	<i>Sambucus pubescens</i> , 354
<i>Geranium sanguineum lancastriense</i> , 354	<i>pubescens</i> , 95	<i>Sanguisorba canadensis</i> , 354
<i>Gilia tricolor</i> , 231	<i>pygmaea</i> , 94	<i>Sarnienta repens</i> , 154
<i>Gorteria rigens</i> , 215	<i>rosea</i> , 95	<i>Saxifraga oppositifolia</i> , 330
<i>Hæmànthus natalensis</i> , 432	<i>rubra</i> , 95	<i>sarmentosa</i> , 236, 330
<i>Hebeclinum atrorubens</i> , 35	<i>stellata</i> , 95	<i>Fortunii</i> , 432
<i>Heliconia aurantiaca</i> , 156	<i>versicolor</i> , 95	<i>Sciadopitys verticillata</i> , 106
<i>Hibbertia grossulariaefolia</i> , 236	<i>Odontoglossum Uro-Skinneri</i> , 274	<i>Scilla natalensis</i> , 432
<i>Hibiscus Rosa sinensis</i> , 215	<i>Ænothera Lamarkiana</i> , 38	<i>Sedum anglicum</i> , 332
<i>africanus</i> , 231	157, 348	<i>Sieboldii</i> , 225
<i>Hydrangea hortensis</i> , 215	<i>Ophiopogon Jaburan</i> , 154	<i>Silene atcion</i> , 231
<i>Hypêrium Kalmianum</i> , 354	<i>Osmànthus variegatus nanus</i> , 153	<i>psuido atcion</i> , 231
<i>Heterotropa pavilora</i> , 433	<i>Ourisia coccinea</i> , 153	<i>Sonerilla grandiflora</i> , 224
<i>Higginsia Gheisbœchti</i> , 433	<i>Pandanus elegantissimus</i> , 273	<i>Sperogyne latifolia</i> , 155
<i>Iberis umbellata atropurpurea</i> , 231	<i>javannicus variegatus</i> , 399	<i>Spirea Billardii</i> , 449
<i>Impatiens bicolor</i> , 343	<i>Pæonia Moulan Gloria</i> , 36	<i>callosa</i> , 396
<i>Jerdouæ</i> , 343	<i>Belgarum</i> , 274	<i>prunifolia</i> , 449
<i>Jasminum azoricum</i> , 332	<i>Phalænopsis Lobbii</i> , 226	<i>Regiana</i> , 449
<i>gracile</i> , 236	<i>Schilleriana</i> , 225	<i>Stanhøpea ornatissima</i> , 156
<i>officinalis</i> , 331	<i>Phædranassa obtusa</i> , 106	<i>Stillingia sebifera</i> , 185
<i>Juniperus sinensis</i> , 410	<i>Philadelphus hirsutus</i> , 231	<i>Stuartia monadelphica</i> , 107
<i>Justicia nervosa</i> , 215	<i>Phlox Drummondii</i> , 231	<i>pentagynia</i> , 448
<i>Kalmia angustifolia</i> , 327	<i>Picea pitecha</i> , 106	<i>Styrax japonica</i> , 107
<i>Kennedy prostrata</i> , 236	<i>Pinanga maculata</i> , 434	<i>obtusa</i> , 107
<i>Larix Kaempferi</i> , 265	<i>Pinus aristata</i> , 108	<i>Swainsona violacea</i> , 154
<i>Lyallii</i> , 308, 309	<i>contorta</i> , 110, 398	<i>Syringa Ambrose Verschaffelti</i> , 347
<i>occidentalis</i> , 309	<i>flexilis</i> , 110, 398	<i>felt</i> , 227
<i>Læstrea montana</i> , 275	<i>Koraiensis</i> , 106	<i>President Massart</i> , 227
<i>Latania borbonica</i> , 339	<i>monticolor</i> , 308	<i>Tagetes signata pumila</i> , 120, 157, 231
<i>Lepidostemum pentstemoides</i> , 37	<i>ponderosa</i> , 110, 308	<i>Taxus japonica</i> , 265
<i>Lilium auratum</i> , 120, 152, 312, 431	<i>Pitecairnia pungens</i> , 224	<i>Thuja gigantea</i> , 308, 309
<i>Brównii</i> , 313	<i>Plânera acuminata</i> , 107	<i>japonica</i> , 265
<i>Neilgericum</i> , 227	<i>Plumbago rosea coccinea</i> , 226	<i>macrocarpa</i> , 265
<i>Linaria bipartita splendida</i> , 231	<i>Pogonia discolor</i> , 273	<i>Nutkaensis</i> , 106
<i>Linum grandiflorum</i> , 231	<i>Polygonatum oppositifolium albo-lineatum</i> , 153	<i>Thujaopsis borealis</i> , 265
<i>Litrobroemia alcyonis nobilis</i> , 155, 273	<i>Polystichum concavum</i> , 154	<i>hetevirens</i> , 226
	<i>Potentilla Kusselliana</i> , 330	<i>Tilia parviflora foliis variegata</i> , 106
	<i>Ptelia trifoliata</i> , 184	<i>Torenia asiatica</i> , 236, 467
	<i>Pteris albo cretica</i> , 399	<i>Tradescantia procumbens</i> , 236
	<i>argyrea</i> , 399	<i>Trierytis hirta</i> , 224
		<i>Trifolium grandiflorum</i> , 354
		<i>Trifolium repens</i> , 414
		<i>Tropeolum aduncum</i> , 231

<i>Tropæolum Lobbianum</i> , 236	<i>Viburnum Lentago</i> , 354	<i>Yucca aloifolia</i> , 399
<i>U'tica dioica</i> , 407	<i>opulus</i> , 374	<i>filamentosa</i> , 399
<i>Vaccinium vitis idæ'a</i> , 354	<i>Viola arborea Brandyana</i> , 227	<i>lineata lutea</i> , 399
<i>Vernonia Novaboracensis</i> , 354	<i>Viscaria oculata splendens</i> , 231	<i>pendula</i> , 399
<i>Verbena Melindres</i> , 331	<i>Victoria Régia</i> , 440	<i>Zinnia elegans</i> , 251
<i>Viburnum lantanoides</i> , 354	<i>Welwitschia mirabilis</i> , 344	<i>Ghisbréchtii</i> , 119

LIST OF FRUITS.

APPLES.	CURRANTS.	Mrs. Pince's Black Muscat, 459
Baldwin, 143, 407, 436	Black Naples, 319	Muscat of Alexandria, 340, 386
Blink Bonny, 126	Champagne, 319	Northern Muscadine, 132
Cider, 143, 262	Cherry, 319	Ontario, 422
Corses Favorite, 126	May's Victoria, 319	Oporto, 68, 134
Cracking, 112	Red Dutch, 319	Perkins, 69, 133
Custard, 112	Versaillaise, 319	Rebecca, 133, 143, 439
Drap d'Or, 126	White Dutch, 319	Rogers's Hybrids, 133
English Russet, 126	Grape, 319	Royal Vineyard, 458
Fallawater, 143	List of 12 Best Currants,	Tokalon, 133
Fall Pearmain, 259		Troy Hamburgh, 69
Fourth of July, 112	GRAPES.	Union Village, 133, 423
Flushing Spitzenburg, 126	Adirondac, 134, 421, 456, 468,	Warren's Catawba, 69
Garretson, 126	471	Yeddo, 420
Golden Pippin, 126	Albino, 67	Many Varieties, 470
Gravenstein, 437	Alexander, 67	Lists of Grapes, 67, 131, 472
Hubbardston Nonsuch, 143, 437	Alvey, 67, 144	List of New Grapes, 339
Ladies' Sweeting, 436	Allen's Hybrid, 132, 457	List of Grapes in Eastern
Maiden's Blush, 259	Ariadne, 67	Pennsylvania, 143
Motner, 436	August Coral, 67	
Northern Spy, 436, 459	Barbarossa, 422	PEACHES.
Porter, 143, 436	Black Alicante, 39, 386	Early Albert, 53
Rhode Island Greening, 437	Guignard, 67	Early Victoria, 51
Red Astrachan, 143, 436	Imperial, 67	Grosse Montagne Précoce, 53
Red Polish, 126	Hamburgh, 44, 339, 422	White Nectarine, 51
Red Russet, 260	King, 67	
Roxbury Russet, 437	Bowman, 67	PEARS.
Shiawase Beauty, 126	Braddock, 67	Amandine de Rouen, 186
Summer Pippin, 126	Buckland Sweetwater, 441	Amedée le Clerc, 186
Sweet Bough, 436	Calabrian Raisin, 386	Amiral Cecile, 186
Wagner, 261	Cassady, 67, 144	Angélique le Clerc, 187
Washington, 126	Catawissa, 67	Anna Nelis, 187
Western Beauty, 73	Champion Muscat, 459	Amélie le Clerc, 187
List of Apples, 126	Claret Grape, 60	Autumn Nelis, 110
List of Several Varieties of	Clin-ton, 67, 144, 189	Belle Alliance, 368
Apples, 142	Concord, 68, 143, 189, 439, 467	de Figuier, 187
List of Popular Apples, 407	Cunningham, 68	Lucrative, 436
BLACKBERRIES.	Cuyahoga, 132, 189	Williams, 127
Lawton, 319	Creveling, 72, 133, 143, 175, 189	Bergamotte d'Esperin, 113
	Delaware 132, 143, 175, 189, 467	Incomparable, 173
	Diana, 133, 144, 439	Beurré Bosc, 436
	Early Amber, 67	Burnieq, 299
	Ellen, 176	Caplaumont, 48
	Flora, 419	Coit, 130
	Fœdora, 418	Dumon, 187
	Foster's Seedling, 111	de Favier, 187
	Golden Hamburgh, 40, 266,	Gambier, 129
	339, 422	Hardy, 131
	Hartford Prolific, 68, 132, 143,	Beurré Koning, 127
	189, 461	Robert, 187
	Howell, 420	Six, 297
	Iona, 420	Bonne Therese, 187
	Isabella, 143, 175, 459	Brialmont, 127
	Logan, 68, 131	Colmar Charny, 187
	Loomis's Honey, 471	Colorée de Juillet, 187
	Lydia, 73, 176	Conseiller de la Cour, 123
	Mary, 176	Cornelis, 129
	Marchioness of Hastings, 421	Michigan, 73
	Maxatawny, 131	De Tongres, 127
	Michigan, 73	Dieudonne Anthone, 187
	Mottled, 132, 176	

Dix,	410, 436	Sebastopol,	188	STRAWBERRIES.	
Doyenné du Comice,	129, 460	Sheldon,	130	Admiral Dundas,	171, 358
Jamin,	187	Souvenir de la Reine des Belges,	188	Austin Seedling,	335, 382
Duchesse d'Angouleme,	437	Sterling,	130	Bartlett,	217
d'Hiver,	187	St. Vincent de Paul,	173	Belle Bordelaise,	252
Helene d'Orleans,	129, 173	Sucrè Blanche,	188	Bicton Pine,	39
Edmonds,	461	Triomphe de Jodoigne,	129	Boston Pine,	359, 381
Emile d'Heyst,	129	Uwchlan,	128	Boyden's Seedling,	335
Esther Comte,	173	Vermilion d'En Haut,	188	Brighton Pine,	295, 380
Fondante de la Maitre Ecole,	188	Winter Nelis,	49	Cox's Hybrid,	358
Fulton,	130	XXVth Anniversaire de Leopold I.	188	Cutter's Seedling,	217, 381
General Canrobert,	188	Lists of Pears, 127, 173, 409,	436	Eclipse,	357
Glout Morceau,	48	List of New Pears, of Popular Pears,	186	Emma,	7
Hageman,	127, 388	Several varieties,	409	Empress Eugenie, 7, 39, 171	357
Henkel,	128	Select varieties,	297	Fillmore,	295, 382
Homewood,	300, 386			Green Prolific,	382
Howell,	130			Hovey's Seedling, 217, 296, 380,	417, 436
Hosen Shenck,	128			Jenny Lind,	381
Island,	129			King's Seedling,	473
Jackson,	127			La Constante, 7, 39, 171, 216,	206, 317, 357, 382
Jaminiette,	130	PLUMS.		Longworth's Prolific,	384
John Cotton,	174	Coe's Golden Drop,	91	Marquise de la Tour Mau-	
Josephine de Malines,	130	Cooper's Large Red,	87	bourg,	266
Kingsessing,	130	Early Favorite,	88	May Queen,	359
Kirtland,	129	Prolific,	88	Rifleman,	358
Knight's Monarch,	48	Jefferson,	87, 91	Rivers's Black Hautbois,	358
Lawrence,	131	Précoce de Tours,	88	Monstrous Hautbois,	358
Louise Bonne de Jersey,	49	Prince Imperial Gage,	86	Eliza,	39, 315
Lycurgus,	128, 391	Quetsche,	92	Russell's Great Prolific,	217,
Madame Eliza,	389	Red Gage,	86		294, 317
Marie Louise,	48, 129	Reine Claude de Bavay,	92	Scott's Seedling,	295, 382
Mauxion,	128	Saint Catherine,	93	Sir C. Napier,	358
McLaughlin,	131	Schuyler's Gage,	87	Sir Harry,	359
Merriam,	131	White Gage,	86	Triomphe de Gand,	171, 216,
Milan de Rouen,	188	Yellow Magnum Bonum,	63	Walker's Seedling,	217, 382
Monseigneur Sibour,	188	Several Varieties,	86	Wilson's Albany, 294,	316, 334,
Oswego Beurré,	131				353, 382, 384
Paradise d'Automne,	436			Wisconsin Seedling,	335
Passé Colmar,	48	RASPBERRIES.		Wonderful,	319
Pater Noster,	127	Belle de Fontenay,	320	List of Strawberries, 171, 216,	236
Poire du Congress Pomologique,	188	Brinckle's Orange,	320		334
Poire Gendron,	188	Clarke,	460	in Western New York,	294
Pratt,	130	Knevet's Giant,	320	for General Cultivation,	317
Prince Imperial de France,	188	Northumberland Fillbasket,	320	in England,	355
Prince's St. Germain,	128	Ohio Everbearing,	247		
Princess of Wales,	72	Philadelphia,	460		
Rutter,	128	Semper Fidelis,	460		
		List of 12 Best Raspberries,	320		

LIST OF CORRESPONDENTS.

Barry, P.,	461	Gridley, Rev. A. D.,	63
C.,	419	Hall, G. W.,	413
Clement, Mrs. Isaac,	76	Hunnewell, H. H.,	26
Cornel, Isaac R.,	418	Jordan, Samuel,	339
Editor, 1, 33, 40, 43, 45, 72, 78, 85, 105, 110,		Kenrick, William,	73
119, 125, 142, 152, 157, 160, 165, 186, 194,		Kirtland, Dr. J. P.,	184
196, 198, 205, 215, 222, 245, 255, 260, 264,		Moore, Sheldon,	20, 101
272, 276, 278, 285, 294, 297, 302, 312, 325,		Paul, William,	144, 189, 218, 267
334, 340, 348, 350, 365, 379, 387, 405, 417,		Prince, William R.,	66
423, 425, 430, 445, 456, 472		Wagener, G. H.,	41
Falconer, John,	69, 139	Weed, James,	116, 337
Flagg, Wilson,	11, 56, 94, 134, 177, 208, 253,	Wilson, W. C.,	341, 386
	289, 329, 373, 411, 451		

GENERAL INDEX.

Arboricultural Notices,	105, 302, 423	Palargoniums, The Fancy,	427
Annals,	230	Persimmons, Japanese,	111
Apples, Descriptions of Select,	260	Plantations Ornamental, Notes on Thinning, 26	
Brinckle, Dr. W. D., Death of,	78	Plants, American,	325
Bulb Farms of Haarlem, A Visit to,	237	Pendulous, for Baskets,	236
Cannas,	235	Rockwork and Hanging,	329
Chrysanthemums, Exhibition of,	464	Plums, Seeding,	85
Cucumbers in Winter,	233	Pomological Gossip, 72, 110, 142, 186, 215, 258, 294, 324, 379, 417, 456	
Dahlias of 1864,	464	Ptelia Trifoliata, A Substitute for the Hop, 184	
Darlington, Dr., Death of,	278	Pyrethrums,	341
Fertilizers for Plants,	198	Raspberries and Strawberries, Seeding, 245	
Floricultural Notices,	33, 119, 152, 222, 272, 312, 340, 430	Review, The Field and Garden Vegetables of America,	196
Flowers, Florists',	373	Rhododendron and Azalea,	205
Stray Notes about,	310	Rose Culture, a Code of,	197
Fruit Culture in Massachusetts,	165	Roses,	144
in Worcester County,	435	Autumnal,	189
Fruits, Mr. Nice's Mode of Keeping,	258	Bourbon,	218
Seeding,	45	Summer,	146
The Popular,	405	The Tea,	267
Garden Gossip,	264, 350	Scions, Influence of, on Stocks,	396
Garden, The Vegetable,	255	Societies, American Pomological,	125
Gardening, In-door,	29	American Institute,	276, 441
Window,	76	Belmont Farmers' Club,	276
Gazanas,	236	Brooklyn Horticultural,	41
General Notices,	464	Cambridge Horticultural,	437
Gladiolus and Cannas,	235	Fruit Growers' Association,	469
Glycine, Pruning the,	88	of New York,	471
Gossip of the Month, 159, 276, 359, 398, 435, 467		of Eastern Pennsylvania, 199	
Grape Vines, Budding and Inarching,	425	of Western New York, 316,	
Grapes, All the Year round,	385	383, 438	
for New England,	66	Hartford County Horticultural,	199
New,	339	Illinois State Horticultural,	42
Gray, William, Jr., Residence of,	350	Massachusetts Horticultural, 42, 79, 161, 200, 241, 280, 321, 360, 398, 441, 474	
Haggerston, David, Death of,	472	Address of the President,	79
Hanging Baskets,	466	Annual Exhibition,	398
Horticultural Operations:—		Donation of H. H. Hunnewell,	230
January,	43	Election of Officers for 1864,	442
February,	82	Purchase of New Hall,	360
March,	122	Report of Finance Committee,	161
April,	162	Sales of Mount Auburn,	200
May,	202	Missouri Horticultural,	199
June,	243	Pennsylvania Horticultural,	41, 440
July,	282	Worcester County Horticultural,	314
August,	322	Strawberry Runners,	465
September,	363	Talk in New York,	295
October,	403	Plants, Pistillate and Staminate,	336
November,	442	Strawberries, in England,	355
December,	474	New,	335
Horticultural Transactions, Retrospective		The Best Four,	39
Glances into, 11, 56, 94, 134, 177, 208, 253, 289		When and how, should be planted,	228
Horticulture, Progress of,	1	and Strawberry Culture,	379
Jackson, James, Garden of,	353	Thorburn, Grant, Death of,	160
Kennicott, Dr. John A., Death of,	278	Variety in Pleasure Grounds,	63
Lily of the Valley,	395	Variety in our Gardens and Grounds,	445
Longworth, Nicholas, Death of,	160	Varieties, Thoughts about,	365
Mealy Bug on Vines,	39	Vegetable, A New,	40
Obituary,	78, 160, 278, 472	Verbenas, New Italian,	222
Orchard House,	397	Vine, Pruning and Management of,	101
Pæonies, The Tree,	305	Violets, Neapolitan,	232
Peach Tree, Pruning and Management of,	20	Wayside Shrubbery,	451
Trees in Pots, A Few Words on,	69, 139	Weeds, some Remarks on,	411
Peaches without Glass,	116, 337	Wellesley, Residence of H. H. Hunnewell, 264	
Pears, Descriptions of Select Varieties, 297, 387			
Palargoniums, The,	392		

THE

MAGAZINE OF HORTICULTURE.

THE PROGRESS OF HORTICULTURE.

THE beginning of a new year, the twenty-ninth since the commencement of the Magazine, brings us, as heretofore, to a chronicle of the progress of that now brought to a close, and a brief review of some of the leading objects which have occupied attention, or have been especially interesting to cultivators.

Under the depressing influence of the events which have absorbed the attention of our countrymen during the last year, the quiet pursuits of horticulture have been much neglected. Cultivators have been called from the garden to the battlefield, and the spade has been changed for the sword. Many energetic amateurs and nurserymen have already shown their bravery, and won distinguished honors, while others, alas! have fallen in the cruel warfare which imperils our national existence. May we hope that those still in the field may return to the pleasant gardens and happy homes they have so promptly left at their country's call.

Commercial gardening has been especially depressed. The demand for trees and plants has been extremely limited, and many of the larger establishments of the country have a stock which will soon become unsalable, and result in a heavy loss. Tree planting has been almost abandoned in some parts of the country, and in others carried on in a limited way. Contemplated improvements have been abandoned, and the formation of new gardens, as well as the embellishment of old plantations, deferred to a more favorable period, when business shall resume its accustomed course, and peace shall shed its benign influence over the land.

With all these influences at work horticultural progress has received some check. But we doubt not it will be but temporary, to be resumed with greater zeal upon the return to prosperous times.

The character of the weather during the year we now annex:—

The month of January commenced with the ground as bare of snow as in October, and accompanied with a violent gale. At noon the temperature was 45° , but about dark it began to blow freshly from the northwest, increasing almost to a gale by midnight; and at sunrise, on the 2d, the temperature fell to 15° ; and on the 5th to 3° , the lowest during the month. For three days it continued very windy and cold, moderating on the 6th, with snow; on the 11th it was milder, with three inches more of snow. The 18th and 19th, five inches more of snow, with a cold rain. Six inches additional fell on the 22d. It was then milder, with an easterly rain, and the month closed with a moderate temperature.

February opened with a light snow, which cleared off cold, with the thermometer at 4° . It was then moderate till the 10th; then milder, and cold again. On the 17th the lowest temperature of the month, and winter, was 2° . A snow, to the depth of six or more inches, fell on the 19th. It was then milder, with snow, accompanied with heavy showers, and thunder and lightning. The month ended with another snow storm of six inches, much drifted.

March commenced with a mild temperature, with rain and snow on the 3d, and the mild weather continued throughout the month, varied with an occasional light snow and rain. The lowest temperature was 22° , on the 5th; and the highest, at sunrise, 36° . There were no extreme warm or severe cold days during the winter; 46° was the highest temperature of the month at noon, and this occurred only twice.

The month of April commenced quite mild, with a temperature of 55° . On the 5th snow fell to the depth of an inch, and it was cool, with very frosty mornings, up to the 13th; then warm again, with the temperature at 65° , when the frogs began to sing. The following week was springlike and warm, the temperature varying from 65° to 78° . The suc-

ceeding week was cooler, with several frosty mornings, the temperature varying from 30 to 32°. But one rain storm occurred during the month.

May opened cloudy, showery, and mild. The 8th and 12th were cool, with the temperature on the last day at 34°, just clear of a frost. The 15th it was warm, and for a week or more the temperature varied from 70 to 85°, with only one light shower. The 25th it was cool, with a light frost, which killed some early vegetables in low situations. The closing week was cooler.

June was cloudy, showery, and generally wet. Rain fell on the 4th to the depth of near four inches. On the 13th the temperature was 88°; it was then cool again. The succeeding week was variable, and cooler, with a heavy rain on the 24th and 25th. The 28th it was 90°, the highest temperature of the month.

The month of July was similar to that of June. It commenced cool, with rain. The second week was warm, with the temperature from 78 to 95°. Rain fell again on the 9th. The third week was quite cool again, with showers at night; and the last week, though warmer, cool and showery for July.

August continued showery and warm; the temperature being from 80 to 90°. The 10th and 12th it was 92°, the warmest days in the month. The latter part of August was cooler, with light rains.

September began quite warm and fine, with the high temperature of 90° on the 6th; and up to the 13th it was very warm for the season. It was then cooler, but warm again to the close of the month, which, without any frosty mornings, were free from high winds.

The month of October, usually the period of our first frosts, was unexpectedly warm and showery. On the 6th the thermometer fell to 32°, but no serious injury was done, and the dahlias and other tender flowers continued in beauty up to the 21st. Occasional rains kept the ground in fine condition. On the 21st the temperature fell to 28°, and on the 24th to 24°, after which it was milder.

November opened mild and pleasant, but suddenly changed to cold, with an easterly snow storm on the 7th of three or more inches. It was then cool, with cold rains and light snow, and generally cloudy weather to the end of the month.

December commenced with a rain, which carried off what snow remained; but it cleared off cool, and the temperature fell to 18° on the 4th. The 5th it rained heavily, and changed suddenly into a snow storm, and the ground was covered to the depth of five or six inches with snow. The 7th, 8th and 9th were cold, the latter morning as low as 3° . It was then mild again, with showers on the 16th, and the temperature at 60° , which carried off all snow. As we now pen our article (20th) it is again very cold, with the thermometer at zero, the coldest day since February, 1861.

A comparison of the above characteristics of the season with those of 1861, will show a very material difference. The cold winter of the latter, and mild one of the former; the rather dry summer of 1861, and the wet one of 1862. We have already alluded to their effect upon trees generally. While 1861 was very barren of fruit, that of 1862 has been noted for remarkable crops, not of any one particular fruit, but of all, commencing with strawberries, cherries, currants, peaches, grapes, and ending with apples and pears, the two latter never before fairer, larger, or better.

Some have indulged in the idea that these crops will not soon be so large again; but we see no reason for any such fear. The growth of the season was vigorous, the autumn prolonged and warm, thoroughly ripening the wood; much it is true, depends upon the winter, which may destroy all the hopes of the cultivator. Fruit trees looked exceedingly well in the autumn, and we noticed many kinds that were as thickly set with buds as if they had borne but a partial crop. There are some fruits, like the Baldwin apple, that bear only every other year; but the majority of kinds produce regularly, and from them we anticipate an abundance of fruit next season.

HORTICULTURE.

Orchard-house culture is receiving increased attention; not, as in Great Britain, because our climate will not produce

nearly every fruit in abundance and perfection, but rather as an interesting and pleasing mode of culture, adapted to the taste and pursuits of men of wealth or leisure. The peach and grape, however, are very uncertain, and cannot be relied upon in our climate; and these are especially adapted to orchard-house culture, affording as they do annual crops of the most beautiful and delicious fruit. We long ago urged their extensive growth in this way, and have from time to time presented all the information regarding their culture, not the least valuable of which is the series of papers which form Mr. Bréhaut's Treatise in our last volume, and which we are about to issue, with some general hints suited to those who are entire novices in this mode of culture. The peach, notwithstanding so much has been written regarding it, is yet far from being properly managed. In general the trees, whether in pots or trained, have a lean and lanky appearance, the fruit being produced at the ends of the branches rather than regularly all over the tree. This arises from ignorance of the habit of the peach, which is unlike all other fruits, bearing only on the new wood; and for want of proper pruning the growth becomes extended until the trees are so tall and ill-shapen that they have to be thrown away as useless. We gave, some time since, an article from the French, on the summer pinching of the peach, and in another page we present one on the general principles of pruning, translated from one of the best French authors, to which we would direct the attention of all who would have bushy symmetrical trees, as well as excellent fruit.

What we recently stated in regard to orchard-houses we are well convinced, from reading the failures of many English cultivators, is correct; not perhaps to the same extent as in Great Britain, because we have so much more sunlight; but that the want of success arises from the causes both ourselves and Mr. Hunnewell have named, there can be but little doubt.

A new mode of producing peaches with certainty is proposed by Mr. Weed of Iowa, which consists in a frame for protecting the trees. Mr. Weed's article in our last volume (p. 510) explains the mode, and, as he has patented his plan,

we hope to see it fairly tried, and if all he states, its general introduction into our gardens would be hailed with pleasure. It is a cheap mode of accomplishing the object.

The pruning and training of the pear has been a subject of increasing interest; the pyramidal system, or what is called such, has been generally adopted, because natural and ornamental, and easily managed in the ordinary way; but whether its advantages are equal to other modes is undecided. Capt. W. R. Austin, whose plantation of pears is a model in its way, has given our readers a most valuable article delineating his mode of training, which he calls the wineglass pattern, because a tree in full perfection assumes the form of a goblet or wineglass. In the hurry of our brief notes of a visit to his grounds we inadvertently stated that his trees had a uniformly flat head. This we did not intend to say, but rather to be understood as flat compared with all other modes of training, for, in fact, the centre shoots are but a little higher than the outside ones, like a wineglass, filled crowning. He has so fully stated what he considers the advantages of his plan that we have little to add, except his own caution, that none should undertake it who have "not a natural love for the art." We hope, in the course of the present volume, to give an illustration of one of Capt. Austin's trees.

Hardy grape culture is still attracting much attention, and the introduction of new kinds continues; but we are glad to know that more caution is now shown in their selection and cultivation for trial, the simple announcement of their wonderful qualities being insufficient to recommend them to notice. A recent letter from a cultivator, who has given much attention to grape culture, and the trial of a large number of kinds, so completely expresses our own opinion that we quote his remarks: "Having had about one hundred and fifty varieties of hardy grapes under trial, commencing about twelve years since, and now feeling willing to recommend only about a dozen at the outside, you may judge we might feel some hesitancy about recommending a new kind." It is a satisfaction to have such an honest opinion. We have from time to time given a full account of all the grapes of much promise, and we have only found a dozen or less, of those

generally known, worthy any cultivator's attention. A new fruit must be proved before its merits can be known, but there should be some reliable account of every such variety, that we may even judge whether it is worth the labor of trial.

Strawberry culture has been resumed again with considerable interest, and the introduction of some new kinds of greater merit than for many years has aided to increase the taste for the culture of this excellent fruit. *La Constante* is a real treasure in its way, and to our mind the only new variety worthy of general attention, unless it may be some of those of more recent date, of which we may mention *Empress Eugenie* and *Emma*. But these, though fine, and the *Empress Eugenie* immensely large, do not appear to have the combined merits of *La Constante*. *M. de Jonghe*, the raiser, may well be proud of his favorite. A recent letter from him, in the *Gardeners' Chronicle*, relative to new strawberries, covers the whole ground, coinciding with our opinion, formed after thirty years devoted to the strawberry. He says:—

“A variety, which possesses in a normal or proper situation for strawberries the requisite properties in the present age of progress, has a charm of exhibiting them in other similar or but slightly different situations. In our climate (Belgium) if a variety of strawberry does not bear well in an open situation, the vicissitudes of the winter; if in the spring the fruit is partly abortive; if, during the summer, at the time, or after a scanty production, the leaves are unable to withstand the sun's rays, and consequently become scorched—such a variety does not merit general cultivation, even although the quality of the fruit may be good. A variety of this kind may be preserved for exceptional situations, but these do not enter into the question now under consideration.

If the fruit is not of fine form, and has not firm flesh, these are serious defects. Unproductiveness, too many runners before or when the fruit is full grown; a simultaneous production of fruit, without succession; difficult to suit as regard soil and situation; uncertain in growth, bearing, and the quality of the fruit—a variety, I say, having such draw-

backs, cannot certainly be raised to the highest pinnacle, without risk of seeing it fall to the ground."

These are the true tests of a good strawberry, and ere long we trust they will be considered in the estimates of new sorts.

The new fruits of the year, and the information in regard to their merits, have been recorded in our Pomological Gossip, to which the reader is referred.

FLORICULTURE.

The influences which we have adverted to in the commencement of our article have been especially felt in this branch of gardening, which ministers alone to our luxuries and pleasures. There has, however, been quite as much interest manifested as could be expected. The exhibitions of the various societies throughout the country have been well filled with fine specimens, and they have been attended by admiring visitors.

Prominent among the flowers of the garden we name the *Gladiolus*, which has been brought to such perfection by the Continental florists. They are so easily cultivated, and present such an array of blossoms of such varied colors, for so long a period, that they may well claim more than ordinary attention. Our cultivators have already begun the production of seedlings, and ere long we doubt not we shall be nearly or quite independent of foreign growth. This is as it should be; for now that high rates of exchange and heavy duties increase the cost of importation, it would be well to have the demand supplied by our own skill.

The taste for ornamental-foliaged plants is still active abroad, and continued introductions are made of new species or varieties, by collectors, especially sent out for that purpose. From the *Begonia*, which had so many admirers, the taste has centred upon the *Caladiums* and kindred allies, and the Catalogues now roll up a long list of names. These are indeed beautiful, of easy growth, and adapted to general culture, from the facility with which they may be wintered, to be used as summer ornaments for the conservatory or open air. Though there is a similarity in the new kinds, they are all very showy. The *Agaves* and *Yuccas* are every day becom-

ing more popular ; and as ornamental plants, for the decoration of the lawn in summer, or the conservatory in winter, they are not duly appreciated by our cultivators. Even the common hardy *Yuccas* are unknown to many gardens.

The acquisition of a new Lily from Japan has been already recorded. It is certainly a very splendid flower, and will become a great ornament to every garden ; it will also, we have no doubt, enable us to secure greater variety than we now possess, by hybridization with the *lancifolium* and other lilies. Additional sorts are said to be in the possession of European cultivators, so that the Lily bids fair to possess all the qualities of other valuable flowers.

Our hardy perennial herbaceous plants have been objects of especial attention in our last volume, and we hope our illustrations of the several kinds, and the information we have added thereto, have rendered them more familiar to our cultivators. As yet we have only noticed a few of the least cultivated, if not least known ; and from time to time we hope to continue the subject till all that are deserving shall have been brought before our readers.

The Phlox has been wonderfully improved within a few years, and the latest varieties are great improvements even upon those introduced but a short time ago. So easily cultivated and so attractive, these new kinds should take the place of the older sorts, requiring no more care, and doubly beautiful, both in color, form, habit, and general aspect.

The *Ziinnia*, from an ordinary annual, has been elevated to the rank of a florist's flower. And the improvements which are making in the new double kinds will place it ere long aside of the Aster, which has been so greatly perfected within five or ten years. It has already found a place in the prize lists of our Horticultural Societies, and the display of flowers has been exceedingly splendid. The German Aster is becoming more popular than ever ; and a flower so easily cultivated, blooming so late in the season, and remaining in perfection so long, is particularly valuable.

We have had occasion, before, to speak a word in favor of Fern Culture, but as yet our collections are quite limited. Yet they are all extremely beautiful, and under good

management present an array of varied and superb foliage, which render them at all times attractive. We hope to see them more extensively cultivated.

The new plants introduced to Europe will be found enumerated in the pages of our last volume. Owing to the limited demand for them a smaller number have been introduced into our gardens than usual, and we fear the duties now charged on plants, together with the high rates of exchange, will prevent the introduction of many desirable sorts. If, however, our amateurs do not allow their taste to flag, the objections we have named will prove no bar to the exertions of our energetic nurserymen.

ARBORICULTURE.

We have but little to add under this head. The mild winter of 1861 and '62 was highly favorable to all the less hardy trees and shrubs, and revives the hope that a short respite from the severity of the previous winter will enable trees to gain so much strength as to resist better a return of similar weather.

A valuable contribution to arboriculture has been made by Mr. Hunnewell, in his article on Rhododendrons and other Evergreens, which is well worthy the attention of every lover of beautiful shrubs. We only regret that other amateurs, well able to communicate valuable information, have not aided with their pen the introduction and more extensive cultivation of these superb shrubs. Perfectly hardy, easily cultivated in the right soil, they are not surpassed by anything our gardens possess. The English and Belgian cultivators are enthusiastic in their devotion to the growth of the Rhododendron, and their Magazines and Illustrated Works abound with descriptions and figures of the new seedlings which are raised in immense quantities for the purpose of originating something unique and beautiful. The result has been an infinite variety of markings, and the old complaint of want of variety is now hardly admissible.

Some new pines have been described by Dr. Gray in Silliman's Journal, found on the Northwest Coast. We shall allude to them ere long.

HORTICULTURAL LITERATURE.

But few horticultural works have been issued the last year. We have before us two or three awaiting a notice, and those are all of any note. The first is *GRAPE CULTURE AND WINE MAKING*, by John Phin, a handsome volume, treating the subject very well. The second, a *MANUEL OF AGRICULTURE*, by George B. Emerson and Charles L. Flint, intended for the School, the Farm, and Fireside; a notice of which, with the above, has been deferred for want of room. The *ILLUSTRATED ANNUAL REGISTER* and the *HORTICULTURAL ANNUAL*, have appeared in their usual style, full of interesting matter. The *ANNUAL REPORT OF THE NEW YORK STATE AGRICULTURAL SOCIETY* is one of the most valuable works, prepared as it is, under the care of Col. Johnson, the able Secretary. The horticultural and agricultural papers have suffered from the times, and some of the latter have been discontinued, while the former have reduced their number of pages, or increased the price, in consequence of the high price of paper. We hope better times will restore all to their former condition.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

SIR JOSEPH BANKS ON AN OBSOLETE MODE OF MANAGING STRAWBERRIES.

THE custom, he says, of laying straw under strawberry plants, when their fruit begins to swell, is very old in England, as we may judge from the name of this fruit. Its use in preserving a crop is very important; it shades the roots from the sun; prevents the waste of moisture by evaporation; and thus in dry times makes less watering suffice than would be used, if the sun could act immediately on the surface of the mould. It also keeps the fruit from resting on the earth and gives the whole an air of neatness as well as an effect of real cleanliness.

In Sir Joseph Banks's garden at Spring Grove, the strawberry beds were measured for the purpose of ascertaining the

expense incurred by this method of management ; and it was found to cost one penny for every nine feet of strawberries in rows. From this original expenditure, the value of the manure made by the straw when taken from the beds must be deducted, as the whole of it goes undiminished to the dung-hill as soon as the crop is over. In dry seasons a great saving was found to be made by the diminished labor of watering, and in the increased size of the fruit.

In wet years the strawing is of less importance ; but in years moderately wet, the use of strawing sometimes makes watering wholly unnecessary. Even in wet years the straw does considerable service, as heavy rains never fail to dash up the mould and fix it upon the berries. This is entirely prevented by strawing.

• ON RAISING NEW AND EARLY VARIETIES OF THE POTATO.

Mr. Thomas Andrew Knight says, in this paper, every person who has cultivated early varieties of the potato, must have observed that they never afford seeds, nor even blossoms ; and that the only method of propagating them is by dividing the tubers. Experience has sufficiently proved that every variety when it has been long propagated, loses gradually some of those good qualities which it originally possessed. Dr. Hunter, in his *Georgical Essays*, has limited the duration of a variety, in a state of perfection, to about fourteen years ; and probably, taking varieties in the aggregate, and as the plant is generally cultivated, he is nearly correct.

Mr. Knight, suspecting the cause of the constant failure of the early potato to produce seeds to be the preternaturally early formation of the tuberous root, which draws off for its support that portion of the sap which, in other plants of the same species, affords nutriment to the blossoms and seeds, experiment soon satisfied him that his conjectures were well founded.

He used several methods of placing the plants to grow in such a situation as to prevent the formation of tuberous roots, but he considered the following the best :—

Having fixed strong stakes in the ground, he raised the mould in a heap round the bases of them, and in contact

with the stakes ; and on the south side he planted the potatoes from which he wished to raise seeds. When the young plants were about four inches high, they were secured to the stakes with shreds and nails, and the mould was then washed away by a strong current of water, from the bases of their stems, so that the fibrous roots only of the plants entered into the soil. The fibrous roots of this plant are perfectly distinct organs from the runners, which give existence and subsequently convey nutriment to the tubers. And as the runners spring from the stems only of the plants, which in the mode of culture here described, are placed wholly out of the soil, the formation of tubers is easily prevented ; and whenever this is done, numerous blossoms will soon appear, and almost every blossom will afford fruit and seeds. It appears not improbable that by introducing the farina of the small and very early varieties into the blossoms of those of larger size, and somewhat later habits, moderately early varieties adapted to field culture might be obtained.

ON THE CULTIVATION OF COMMON FLAX IN A FLOWER GARDEN.

This paper was designed to bring into cultivation the common flax as an ornament of the flower garden, with a view also to the profit it will afford. The writer remarks that this plant when so cultivated, like wax and honey, forms part of the natural riches of the country, and if it could supplant the cumbersome yellow lupine in flower borders, the annual revenue arising from it would amount to several thousand pounds.

The soil of every flower garden is always rich enough to produce good flax ; but if it is loamy rather than sandy the quantity will be nearly doubled. There are various ways of disposing this plant so as to be exceedingly ornamental ; but none more so than scattering it in random parcels, or little clumps of from ten to twenty plants, towards the back of the flower borders, and in the front of the shrubbery. Here, unless the summer proves uncommonly dry, it will attain the height of three or four feet. If a temporary edging, or summer screen is wanting for any particular bed, it may be also employed for this purpose.

The seeds of good flax are short, plump, thick, very oily, and of a bright brown color. They should be sown early in the spring, when the hardy annuals are generally sown; but if the ground be sandy and naturally dry, they should be sown in the autumn.

No more attention is required than for the other flowers of the garden. As soon as the seeds begin to ripen, and the plants turn yellow, pull all the plants up by the roots and lay them in bundles exposed to the full sun to dry completely. Then pull the heads off and shake out the seeds. Immediately after, they must be laid to macerate in a ditch or pond of water, and kept under by a long piece of timber floating upon it. From five to ten days is the time necessary for its immersion, and after the fifth, it must be examined daily, taking especial care that it does not lie too long.

As soon as the fibres are sufficiently macerated to separate from one another kindly, spread it out to dry upon a new mown meadow. When dry it must be again collected into bundles, and either sent to the flax-dresser, or prepared for spinning at home.

MR. KNIGHT ON THE CULTURE OF THE MELON.

There is not, says Mr. Knight, any species of fruit cultivated in England that so rarely attains the greatest degree of perfection, as the melon. It is generally found so defective both in richness and flavor that it ill repays the expense and trouble of its culture. He had cultivated it with so little success, that he gave orders to his gardener to plant no more melons. Attending, however, after his orders were given, more closely to his mode of culture, he thought he saw sufficient cause for the want of flavor in the fruit, in the want of efficient foliage, and appealing to experiment he had ample reasons to consider his opinions well-founded.

The leaves of the melon, as of every other plant, naturally arrange themselves so as to present, with the utmost advantage, their upper surfaces to the light; and if by any means the position of the plant is changed, the leaves, as long as they are young and vigorous, make efforts to regain their proper position. But the extended branches of the

melon plant, particularly under glass, are slender and feeble ; its leaves are broad and heavy, and its leaf-stalks long ; so that if the leaves be once removed, either by the weight of water from the watering pot, by the hand of the gardener in pruning, in eradicating weeds, or any other cause, from their proper position, they regain it. Consequently a large portion of that foliage, which preceded or was formed at the same period with the blossoms, and which nature intended to generate sap to feed the fruit, becomes diseased and sickly, and does not perform its office, before the fruit acquires maturity.

To remedy this defect, he placed his plants at greater distance from each other than his gardener had previously done, putting a single plant under each light, the glass of which was six feet long by four wide. The beds were formed of a sufficient depth of rich mould to insure the vigorous growth of the plant ; and the mould was as usual covered with brick tiles, over which the branches were conducted in every direction, so as to present the largest possible width of foliage to the light. Many small hooked pegs, such as the slender branches of the beech, the birch and hazel afford, had been previously provided ; and by these, which passed into the mould of the bed, between the tiles, the branches of the plants were secured from being disturbed from their first position. The leaves were also held erect, and at an equal distance from the glass, and enabled, if slightly moved from their proper position, to regain it.

He still found, however, that the leaves sustained great injury from the weight of the water falling from the watering pot. He, therefore, ordered the water to be poured from a vessel of proper construction, upon the brick tiles, between the leaves, without at all touching them ; and thus managed, he observed that the foliage remained erect and healthy. The fruit also grew with extraordinary rapidity, ripened in an unusually short time, and acquired a degree of perfection which had never before been seen.

As soon as a sufficient quantity of fruit—between twenty and thirty pounds—on each plant is set, he recommends that the further production of foliage be prevented, by pinching

off the lateral shoots as soon as produced, wherever more foliage cannot be exposed to the light. No part of the full grown leaves should ever be destroyed before the fruit is gathered, unless they injure each other by being too much crowded together; for each leaf, when full grown, however distant from the fruit, and growing on a distinct branch of the plant, still contributes to its support; and hence it arises, that when a plant has as great a quantity of growing fruit upon part of its branches as it is capable of feeding, the blossoms upon other branches, which extend in opposite direction, prove abortive.

SOME REMARKS ON PRUNING AND DRAINING STANDARD APPLE AND PEAR TREES.

The following suggestions, from a paper read before the London Horticultural Society in 1811, are important. The author says, we often see apple and pear trees both in gardens and orchards, not only crowded too closely together, but so loaded with their own branches, that very little fruit is produced, and that is greatly inferior in size and flavor, to what it would be, under different management. He says when he first came to his residence in Millfield, he found a number of apple and pear trees, not only planted too closely, but left entirely to their natural manner of growing, and exceedingly shaded by a row of high trees in the hedge, which separates them from the pleasure ground. A small number were selected the first season, and many of their largest branches taken entirely out from the bottom, cutting the wounds very clean. The remaining branches were also properly thinned so as to leave room for the air and light to play upon the smallest branches.

The following summer the shoots pushed from those pruned trees, as might have been expected, were uncommonly vigorous, such as the French call *gourmands*, often from three to five feet long or more. About the end of June, he applied oval balls of grafting clay towards the extremity of the branches, sufficiently heavy to incline them downwards in a pendulous direction. The sap being thus directed from its natural mode of ascending and descending, every bud almost

became a blossom bud, and in several trees this disposition to produce blossom buds was carried down to the very lowest spurs on the stem and thicker branches.

This practice, the writer adds, has since been closely followed up; for many advantages, exclusive of a more certain crop of fruit, attended it. 1st. Other small vegetables may be successfully cultivated under the light shade of trees kept so open; 2d. No expense of espalier, or of stakes, or of training and tying down the branches is incurred; 3dly. The crop of fruit is not only improved in size and flavor by having so much sun and air, but it is more easily gathered, and suffers much less from the autumnal winds; for branches in this direction are more pliable, and bend more easily to the storm. And as a proof how much may be done by art, if necessary, the branches of a Lombardy poplar accidentally left in his orchard, after being loaded with clay balls, became as pendulous as those of the weeping willow.

AN EXPERIMENT IN ROOT GRAFTING, BY T. A. KNIGHT.

Transplanting some pear stocks from a seed bed, of which the soil was soft and deep, Mr. Knight found that the first emitted roots of many of them descended a foot or more perpendicularly into the earth, before they divided into any lateral ramifications. And as he did not like to replant the young trees with such an inconvenient length of perpendicular root, he cut off about six inches from each. The amputated parts were then accurately fitted and bound, as in splice or whip grafting, to scions of pear trees, which were selected as nearly as possible of the same size; and the roots with their attached branches were deposited in the ground as cuttings, so deep that the whole of the root and about an inch of the graft or scion were covered. The soil was then drawn up with the hoe on each side of the plants, which were placed in rows, so that one bud only of each graft was above the soil, and another just within it. These grafts succeeded perfectly well; and Mr. Knight subsequently repeated the same experiment with equal success upon the apple, the plum and the peach.

In the greater part of these experiments, the roots were perfectly cleansed from mould by washing, before they were fitted to the graft, and were then placed in wet moss, till a sufficient number were ready to be carried to the nursery; a common dibbler only was employed in planting them, but the mould was washed into the holes with water to close it well round the roots, and to supply the place of the clay or other material, used in other methods of grafting.

The author then suggests that it appears not improbable that many scarce plants, of difficult propagation, might be thus raised by employing the roots of congeners or even of plants of the same tribe. For if the graft could be fed, though imperfectly, for a few months, it would probably emit other roots within that period. The *moutan* might thus be probably increased by being grafted upon the succulent root of the common *pæony*; and many other scarce plants by similar experiments.

ON THE ADVANTAGES OF EMPLOYING VEGETABLE MATTER AS
MANURE, IN A FRESH STATE, BY MR. KNIGHT.

Writers upon agriculture, says Mr. Knight, both in ancient and modern times, have dwelt much upon the advantages of collecting large quantities of vegetable matter, to form manures; while hardly any thing has been written on the state of decomposition in which decaying vegetable substances can be employed most advantageously, to afford food to living plants. Both the farmer and gardener, till lately (1812) thought that such manures ought not to be deposited in the soil, till putrefaction had nearly destroyed all organic texture; and this opinion is perhaps still entertained by a majority. It is, however, Mr. Knight thinks, wholly unfounded, as appears by the following experiments.

The writer was engaged, in 1810, in some experiments from which he hoped to obtain new varieties of the plum; but one only of the blossoms upon which he had operated escaped the severity of the frost in the spring. The seed which this afforded, having been preserved in mould during the winter, was in March placed in a small garden pot, which was nearly filled with the living leaves and roots of grasses,

mixed with a small quantity of earth ; and this was sufficiently covered with a layer of mould, which contained the roots only of grasses, to prevent, in a measure, the growth of the plants which were buried. The pot, which contained about one-sixteenth of a square foot of mould and living vegetable matter, was placed under glass, but without artificial heat, and the plant appeared above the soil in the end of April. It was three times during the summer removed into a larger pot, and each time supplied with the same matter to feed upon ; and in the end of October its roots occupied about the space of one-third of a square foot, and its height above the surface of the mould was then *nine feet and seven inches!*

In the beginning of June, a small piece of ground was planted with potatoes of an early variety, and in some rows *green fern*, and in others *nettles*, were employed instead of other manure ; and subsequently as the early potatoes were taken up for use, their tops were buried in rows in the same manner, and potatoes of the preceding year were planted upon them, and covered in the usual way. The days being then long, the ground warm, and the decomposing green leaves and stems affording abundant moisture, the plants acquired their full growth in an unusually short time and afforded an abundant produce ; and the remaining part of the summer proved more than sufficient to mature potatoes of any early variety.

In the preceding experiments, the plum-stone was placed to vegetate in the turf of the alluvial soil of a meadow, and the potatoes grew in ground which, though not rich, was not poor ; and therefore, some objections made to the conclusions which he was disposed to draw in favor of recent vegetable substances as manures. Mr. Knight then presents the following experiment as conclusive.

He received from a neighboring farmer, a field naturally barren, and so much exhausted by ill management that the two preceding crops had not returned a quantity of corn equal to that which had been sowed upon it. An adjoining plantation afforded Mr. Knight a large quantity of fern, which he proposed to employ as manure for a crop of turnips. This was cut between the tenth and twentieth of June, but

as the small cotyledons of the turnip seed afford little to feed the young plant; and as the soil, owing to its extreme poverty, could not afford much nutriment, he thought it necessary to place the fern a few days in a heap, to ferment sufficiently to destroy life in it, and to produce an exudation of its juices; and it was then committed, in rows, to the soil, and the turnip seed deposited, with a drilling machine over it.

Some adjoining rows were manured with the black vegetable mould obtained from the site of an old wood-pile, mixed with the slender branches of trees in every stage of decomposition, the quantity placed in each row exceeding more than four times the amount of vegetable mould which the green fern, if equally decomposed, would have yielded. The crops succeeded in both cases; but the plants upon the green fern grew with greatly more rapidity than the others, and even than those which had been manured with the produce of the fold and stable yard; and were distinguishable in the autumn, from the plants in every other part of the field, by the deeper shade of their foliage.

The conclusion drawn by Mr. Knight, is, "that any given quantity of vegetable matter can generally be employed, in its recent and organized state, with much more advantage than when it has been decomposed, and no inconsiderable portion of its component parts has been dissipated and lost during the progress of the putrefaction."

PRUNING AND MANAGEMENT OF THE PEACH TREE.

TRANSLATED "FROM MAISON RUSTIQUE," BY SHELDON MOORE.

THE pruning and management adapted to each kind of fruit tree can have but one rational base: the study of its peculiar mode of growth. Many peculiarities of the peach tree exhibit important differences between its manner of growth and that of other fruit trees. To form a just idea of them, consider first the growth of a grafted peach tree left to itself. During the first two or three years it will push out

vigorous shoots more or less divergent, of which the highest parts to the exclusion of the others will finish by being charged with flowers and fruit, all of them continuing to elongate themselves. If after the first produced we examine the tree we shall find on the branches that have borne fruit the preceding year neither wood, nor fruit bud, we shall see, that all the sap will be conveyed to the highest part of the branches, the lowest part of which will be entirely naked. In a branch of the peach tree the part that has borne fruit never bears again, whatever the duration of the tree; this is the governing and invariable law of its vegetation. At the end of a few years it will only exhibit bouquets of green branches supported by uprights, as despoiled, and as completely naked as broom handles. Such will be the aspect of a peach tree on an espalier, that has been left to its natural course of vegetation. It will raise itself towards the top of the wall which it will almost always pass; its upper part will offer only foliage and will bear here and there a little fruit; the lower part will show only smooth branches, entirely naked without the appearance of fruit or even of foliage.

These facts being proved, there results from this principle, that every branch of a peach tree, that has once borne either fruit, or only flowers, never being able to bear again, should be suppressed, and in order to hope for a succession of annual products, we must induce the *annual* formation of fruit branches. There results also the necessity of constantly combating the tendency of the peach tree to carry its sap to the upper shoots to the detriment of those below, and of forcing it to distribute it equally in all its parts, in order to produce fruit branches, for replacing those, which every year become unproductive, by having borne a single product.

One other peculiarity of the peach tree, is no less worthy our attention. The wood buds or fruit buds standing on the same branch are, without exception, all developed at the time when it begins to grow. It is, then, impossible to reckon for replacements upon those eyes that cannot show themselves, till later the existence of these latent eyes, so valuable in other fruit trees, is incompatible with the mode of growth of the peach tree; it is among the eyes of the

present year's branch, that we must seek the means of replacing it for the year following; there is no other resource. The cultivated trees obtained from stones, alone have the power of sometimes renewing themselves from those latent eyes which start from the trunk or the large suppressed branches; but even this chance does not exist for the grafted trees that garnish our espaliers.

We remark moreover that although with many other trees the sap experiences in the middle of the season a time of arrest, which permits the sap of August to be distinguished from the sap of spring, in the peach tree the activity of the sap is not suspended for a moment, from the first days of spring even to the beginning of winter.

The whole system of pruning the peach tree rests on these observations. We cannot better show the necessity of constant watching the equilibrium of the peach tree in all its parts than in citing these words so just and true of M. Lelieur:—

“The sap may be considered as a stream which it is easy to maintain in the channel which Nature or the hand of man has traced for it; it is only necessary to attend seasonably to the places where it would make an irruption, and hinder and prevent it by obstructing the passages, at the same time leaving in the vicinity channels enough for it freely to flow in; then it will carry abundance and life into the same channels which it would have abandoned, and which would have been dried up, if it had been left at liberty to flow in new ones according to its caprice.”

SECTION SECOND—PRINCIPLES OF PRUNING THE PEACH TREE.

The immediate effect of retrenching a portion of a peach tree branch, is to cause the sap to flow into the bud next below the cut (A, FIG. 1) and successively into all the eyes, below, so that, if we would retain them all, they would grow of unequal size in proportion to their distance from the cut, the first surpassing in vigor all the others, as represented (FIG. 2).

The earlier the peach is pruned after the first symptoms of the motion of the sap, the greater will be the force with

which the branches, developed in succession below the cut, will vegetate; hence this general rule: to hasten the pruning of the more delicate trees to obtain strong shoots; to retard the pruning of the strongest trees, in order to prevent their overgrowth. A feeble tree pruned late does not furnish branches of replacement or renewal; a vigorous tree pruned too soon gives too many wood eyes, and if these eyes flourish the following year, the sap will be found turned to the profit of the young wood, they will not afford any for their fruit.

A stout bud above which a branch has been cut off will surpass, in strength, the same branch, in the course of the year; a delicate bud, under the same circumstances, gives a more feeble branch than that on which it is developed.

These invariable effects of pruning above the eyes of the peach tree, offer a sure means of regulating the sap, and of equalizing two unequal branches in order to restore an equilibrium.



1 AND 2 PRUNING THE PEACH TO REGULATE THE SAP.

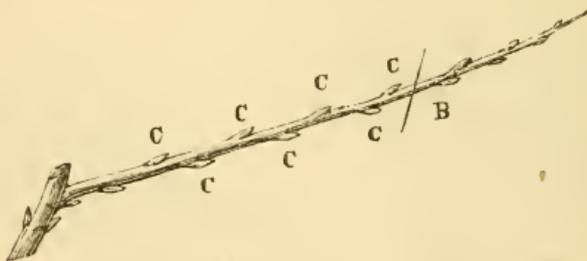
A wood branch cut above a fruit bud grows no larger; so that we ought never to cut above a fruit bud, if it is not accompanied with a wood bud, for the branch will no longer continue to develop itself and may perish, whilst a wood branch cut above a side wood shoot (bourgeon) charged with good eyes, permits the sap to take its course among the side shoots placed below, if care is taken to pinch those that are highest.

Some gardeners recommend pruning the peach tree very short; others believe a long pruning preferable; we have always found in practice, a long pruning best on strong subjects and a short one on feeble subjects, according to this just

remark of M. Lelieur :—" A pruning too short makes robber shoots (gourmands) ; a pruning too long gives every thing to the fruit, arrests the tree and exhausts it."

At Liege, (Belgium), the religionists of the magnificent monastery of St. Laurent, cultivate, in their enclosure, perfectly exposed, peaches equal to those of Montreuil, the fertility of the soil and the humidity of the climate rendering their trees very vigorous ; they always cut them very long, a tradition which is handed down in that country, where one may admire espaliers of peach trees worthy of rivalling the most perfect that France offers of the same kind.

Always, when an injudicious cut is made it induces the growth of parts only fit to be suppressed, it injures the development and good health of the peach tree ; it is plain that the force expended in forming these useless parts results in pure loss. Suppose the branch (FIG. 3) cut at B, then on the first movement of the sap all the eyes, C C C, will



3. IMPROPER MODE OF PRUNING THE PEACH.

be opened, they will not all be able to exist without confusion ; all the sap employed to convert them into side shoots (bourgeons) will then be sap wasted, which might have been used for the increase of the tree and the production of fruit. This will take place, if the cut is effectual, as represented in FIG. 4, above the last eye A, alone necessary to the branch of renewal.

Among the very numerous eyes, with which the branches of the peach tree are covered at the moment of pruning, that on which the gardener's attention should be constantly fixed, is the inferior eye placed near the heel of each branch for fruit. If this branch receives a pruning too long in order to obtain an abundant product, its lower eye will not start at

all; the branch will have nothing to replace it the following year; it will leave on the espalier a void space, often very difficult to fill up. Nevertheless, certain varieties of the peach give their fruit only at the upper extremity of the fruit branch, which is necessarily pruned long, in order to have any fruit. In this case, they suppress, below the fruit buds, A A A (FIG. 5), all the wood buds (B B B) except

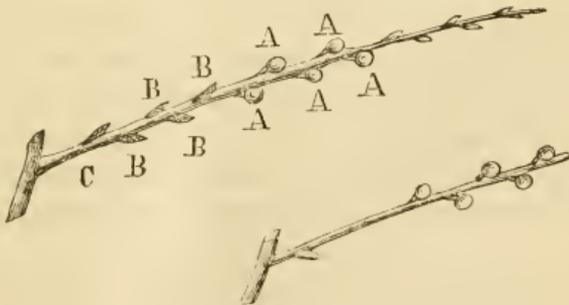


4. PRUNING FOR THE FORMATION OF WOOD.

the bud C, which is reserved for replacing the fruit branch. This suppression of the eyes hardly opened, is called blinding (*aveuglement*).

FIG. 6 shows the state of the branch after the pruning, and the suppression of the blinded eyes. By this means, this branch, despite of its long pruning, has sufficient sap left for the eye of the heel to become a good branch of replacement.

We cannot too often repeat, that if we would have an espalier garnished with well bearing peach trees, durable and productive, we must never cut the branches for fruit very



5 AND 6. SUPPRESSING THE WOOD BUDS.

long, nor the wood branches very short, but direct all our attention to the regular replacing of the branches for fruit, and the regular growth of the wood branches. To be able to prune so as to cause the present year's branches to start

and grow near the base of the fruit bearing branches, without degarnishing or making the tree to look naked, this is the essential principle of pruning the fruit bearing branches of a peach tree in espalier. Add to this that an unfortunate greediness continued, ruins the trees by pruning the fruit branches too long, and that the less of flower buds we leave on a branch, the more force we give to the eye from which should spring the present year's branch (bourgeon) designed to replace it.

The fruit branch is always cut next above a wood bud, often accompanied by a fruit bud, so that the flower is preceded by this year's branch which extends forward of the fruit; this bud has on the fruit the same effect that is produced on a graft by a bud reserved upon the stock; it is a real *eye of appeal or resort*, which draws the sap towards the fruit; in default of this bud, the fruit branch cut above a fruit bud, without a wood bud, dries up and perishes down to the first wood bud, this bud draws to itself the sap and retains it to its own profit; the fruits sometimes ripen on the branches, but they are of moderate quality.

NOTES ON THINNING ORNAMENTAL PLANTATIONS.

BY H. H. HUNNEWELL, ESQ., WELLESLEY, WEST NEEDHAM.

It is not proposed in the following remarks to discuss the question of the proper distances at which trees should be planted, or the formation of ornamental plantations generally in the embellishment of our country places, but simply to urge attention to the thinning out, in those cases where the necessity is admitted, the trees having been originally planted too thick purposely with the intention of the future removal of a portion, and the work has been from any cause omitted or deferred. I am led to refer to the subject at this time from my own experience, and from conviction by recent observation, that a very considerable proportion of our places have suffered more or less, some most sadly, from a neglect or postponement of this indispensable work, notwithstanding all

that has been written in our standard works on landscape gardening and in our horticultural magazines of the day.

Most of our country places having few or no trees on them at first, they would present a very bare and naked appearance for many years if only the proper number were used, and therefore they are generally planted very thick indeed, sometimes from inexperience or want of reflection on the part of the proprietor as to the space they will cover when full grown, but oftener with the intention of the removal of a portion at a later period. The reluctance to cut down and sacrifice a beautiful tree which one has planted with his own hands perhaps, carefully watched and tended for several years, just when it has probably become well established and is growing vigorously, is surely most natural, and it requires no small amount of moral courage to overcome it; but it ought to be done in view of the great evils which are sure to follow and to mar the beauty of the finest place in the land. And besides, I think it will be generally found that as the French say, "ce n'est que le premier pas qui coûte," for after the work has once commenced, the wisdom of the step becomes so apparent, and the improvement made is so decided and evident, that one will not only recover from his first aversion, but be induced to persevere to the final accomplishment of his task.

The objection to planting very near the borders of our avenues and walks has been increased and become more obvious I think, of latter years, in consequence of a more free use of evergreen trees, especially the Norway spruce, which cannot be trimmed up except to its disfigurement, and therefore ought to be placed at a much greater distance from the road than any deciduous tree. The sweep of the lower branches of only a medium sized Norway is some fifteen feet, and if to that be added a few feet for a margin, and you have twenty to twenty-five feet as the proper distance for a row of Norways to be finally grown, from the avenue, whereas they are generally found within three or four feet. The consequence is, the lower branches are broken and worn off by contact with carriages, &c., and the trees, instead of being a source of gratification and admiration, become on

the contrary objects of constant regret and even annoyance. To one who is indifferent, or without any decided taste in these matters, it might not be considered of so much importance, but it is a very serious affair for a true lover of rural life, who fully appreciates the beautiful in nature, and is not simply influenced in ornamenting his residence by the gratification he may experience as the possessor of a fine estate, but plants and cultivates his trees because he takes a personal interest in them, and derives a genuine pleasure in so doing which only a few understand, and whose happiness would be seriously impaired by errors and mistakes made in days past, now too late to be rectified, and which he sees every time he takes a walk or perhaps looks out of his window.

The evil consequences of too much delay in thinning are so numerous and apparent, that it would seem hardly necessary to refer to them in detail, but being so generally overlooked, it may be as well to state for the benefit of the inexperienced, that where trees have been allowed to remain very crowded any length of time the soil becomes much exhausted and impoverished, seriously affecting their general health and vigor, and the lower branches from the want of light and air die out, never to be renewed, thus fatally injuring the beauty of those intended to remain permanently. With the increased size of the trees, too, a great deal more care is requisite in cutting down to prevent injury in falling on those near by, very materially augmenting the labor and expense, and the same may be said in the removal of the stumps, a more serious matter than a young planter would be apt to imagine.

I may add, that it will be found in some cases where any considerable number of trees have been planted, irregular and quite effective ornamental groups can sometimes be formed, by a timely and judicious thinning, other circumstances being favorable, which can be taken advantage of. Also, where many have grown up together, distant prospects have occasionally been imperceptibly shut out, which can be re-opened with most decided effect by means of cutting "vistas," thus materially increasing the apparent limit of

one's boundaries and size of the place, adding greatly to its attractions.

As it will readily occur to every one, this is a kind of work which is not to be left to green hands to be executed some day when the proprietor "happens" to be absent from home, an excuse often offered for the strangest blunders conceivable in horticultural pursuits, but requires discretion and judgment, with the personal attention and supervision of the owner, and as the cool season has now arrived when a little violent exercise will no doubt be agreeable and perhaps serviceable to aid in digesting the enormous pear crop of the season, let me advise those to whom these remarks may perchance be applicable, to go earnestly to work and save regrets which they otherwise will be sure to realize at some future day.

IN-DOOR GARDENING.

FROM THE GARDENERS' CHRONICLE

I FIND that my plants now begin to make some good progress; *Lycaste Skinneri* is making healthy new pseudo-bulbs, the leaves giving really quite an oriental look to the plant case in which it grows. *Lycodium scandens* is putting up long shoots all round, of its pretty fern-leaved sprays. The *cissus* in one corner is growing really rampant. *Pteris tricolor* has had to be repotted, having rooted down quite deeply into the sand and fibre upon which it stood, and my ferns in general are looking very green.

The azaleas I absolutely begin to get tired of seeing so long the same. In the *Gardeners' Chronicle* in May, I mentioned having just received from Mr. Veitch one of his beautiful trees of *Azalea variegata*. It had a short straight stem and a perfectly even spreading head of blossom; it came to me in full blossom on the 25th of April, and to-day, while I am writing, on May 31, it is still too good for me to put it by. Talking of it yesterday, I carelessly pulled off a blossom which I was pointing out as having lasted during all this

time : it was of a darker color than the other flowers, which attracted first my attention to it, and at last I got interested in seeing how it lasted. I think in-door gardeners should remember this azalea, for it really is a great thing at this time of year to have a plant continue six weeks in real beauty. It was in a plant case, but the upper glass was kept off all day, and the plant was never watered over head, being left entirely to refresh its flowers in the dewy air at night, when the case was nearly closed.

In spite of all precautions, however, large leaves will get dusty. My orchid, for instance, requires frequent sponging.

Amongst my plants just now, I have two great acquisitions, one is a very pale and beautiful pink gloxinia, looking like the purest snow, with a bright but shaded edge of the very loveliest pink. I never saw so unsubstantial a flower—one expects each minute that it will melt into thin air ; the bells are very large and upright, at each dent in the flower the color seems as if it had run together, and made a darker dent—and then from that it goes clouding along the edge till anything so exquisite I really never saw. It is full of blossom, and any one who saw it would forgive me for being a little enthusiastic in my admiration of it. These gloxinias too deserve especial notice by window gardeners generally, for if the roots are kept moist and they are not allowed to be in too dry an atmosphere they last very long, and go on opening buds in a long succession. My beautiful plant at present is at the warmest end of a plant case, but I have also had them growing without heat, and indeed at present I have several coming on from tubers kept in a pot of sand all winter, and started afterwards in a warmish corner. My other acquisition is what one might call a *rouge plant*, for I am informed that ladies are suspected of rubbing their faces with its beautiful coral berries! They crush up like snow berries and make a pretty pink color! The plant is *Rivina humilis*, and it has dark green leaves and long graceful spikes of very small white flowers mixed with other spikes covered with those berries. I placed it between the climbing fern and passion flower at the warmer end of my plant case, and I was quite surprised to see how the berries lighted it up.

They seem to me to be likely to last well, and it would be a most useful plant to have, as it is for so many months each year gay with its pretty tapering spikes of berries. These plants were very pretty in the depth of winter, and their minute dots of excessively bright red are wonderfully telling in stands that contain much green.

I scarcely know why it is, but I think as hot weather comes on a window full of plants becomes a little nuisance. Perhaps it is that the pots and boxes deprive us of some air. At the same time perhaps there is no time of year when outside flower boxes, or I might say flower borders, become so extremely welcome.

This, it seems to me, is a remarkably good and common-sense arrangement. The plants thus shade our windows and act effectually as an outside blind, while they grow themselves, under proper treatment, and when chosen rightly, in a perfect rampant fashion.

I never can get myself to care for detached plants; narrow lines and edgings, pretty as they are, seem somehow to me so poor and so wanting breadth. Even window boxes to be satisfactory seem to need double rows or treble lines of plants, and then when viewed from outside they are extremely charming. From within the rooms however they seem to me a mere fringe. The box too stands up and arrogates to itself the possession of half a pane of our precious day-light, and what window gardener does not measure that light by inches?

For all windows which do not open absolutely to the ground I think that deep wooden boxes suspended by nails and brackets, and if required, supported by even a slight scaffold, will be found most pleasant. I can never cease talking of how pretty these have been made—and of all kinds of gardens they are the easiest managed. Keeping them very neat is the last thing that we need think of; making a bright green tangle is after all the pleasantest way of refreshing London-strained eyes. The common quick-growing flowers are the things to have here. Sweet peas in pots seven inches wide, seven or eight seeds being sown in the pot, and the soil well jammed in; *Cobœa scandens*, growing in three-inch pots,

or in large ones, as is most convenient; clematis or passion-flower, Japan honeysuckles or white bindweeds; all these I have had do well. Spice geraniums and myrtles for making some good green, Tom Thumb geraniums, tropæolums, stocks, mignonette and heliotropes, give both color and green, and perhaps two places may be reserved to fill with roses or white geraniums, arums, or Japan lilies, the fortnightly change of which will keep up a varying interest, and alter, with each new change, the style of the whole affair.

A large spreading fern is most exquisite in the centre if it only will keep green enough; but if the window is a very hot one there are divers difficulties in persuading it so to do. Arums, then tropæolums and heliotropes, are the most cool looking things, and those to be trusted most, with of course the never failing Tom Thumb and ivy-leaved pink and white geranium. The only secret I know of for the good success of these brightest gardens is that of keeping the box foundation thoroughly drenched with water. The delight even of this in itself is great. My own window garden has sometimes been watered outside from steps, or by a syringe; and it is indescribable the charm, on a sunny morning, of opening one's windows on fragrant beds of flowers thus glittering from their shower; and again in the evening, after a sultry day, the very sound of the water as it patters down is refreshing.

The question of size and arrangement must vary in different cases. I never saw one that seemed to me to do better than when the top being level with the window the ends came beyond it six inches or so each way, and the width, including the window sill, was about two feet six inches. It must be remembered that the plants growing over gave an appearance of very much greater size. The window-sill was troublesome. In one case I got over it by training vine branches down, and this was very pretty; in other cases I found that the blue lobelia, and I think some campanulas, and some of the hardier and dark green lycopodiums, grew down very well to cover in this space. Branches, however, brought round of some well-grown climber make certainly, in this case, the most appropriate frame. A long rose branch,

or a streamer of honeysuckle, nailed loosely at each end, some way beyond our sight, would grow very well and blossom all along. The evergreen honeysuckle for this would be extremely suitable, as it does not harbor insects and is so very sweet, as well as being green and pretty. These sort of boxes ought to be painted bark color, or to be done with dark oak stain instead.

A clever man-servant of ours used to make all such things capitally, and the prettiest fashion for them is, I think the roughest.

Perhaps it might be a good plan to make the tracery separate if it were elaborate, like a wrought balcony front covering some old box. The twisted pieces of gnarled and grotesque old trees do best of all for such work, and whether they are nailed upon the box itself so as to form in fact a raised ornamental work, or whether the box is itself a closed lining to a rustic open work, the effect is delightful when the flowers are in.

I have had such boxes resting on the ground, or raised in balconies, and also supported simply by a bracket—at least by spars of wood that made a sort of scaffold, and rested on two stout square rustic posts. Where the latter plan can be used, the posts are themselves easily made the ornaments of the garden, and the trees that climb up them add very greatly to the beauty of the flowers above.

The box may make a shade for the lower window; and if this belongs to a room that signifies, perhaps some means could be used of making the box waterproof by a zinc or some such lining, so as to make the outlet near one of the front corners, that the water may not trickle down upon the glass when the flowers above are drenched, as they must be so often.

FLORICULTURAL NOTICES.

NEW CALCEOLARIA.—Messrs. Veitch & Son have recently introduced a new *Calceolaria* from Chili, called *C. ericoides*,

which promises to become a very useful plant for autumnal flowering in cool greenhouses, from its apparent capability of being grown into handsome and well-furnished dwarf bushes. It was recently exhibited by them a true slipper-wort, and with flowers more truly slipper-like than in many other species. This plant has a marvellous similarity to some yellow-flowered heath of fastigate growth. A number of erect shoots emerge from the crown, and grow up to about a couple of feet in height, their sides being clothed with short branchlets, bearing linear semiteeth leaves, quite like those of a heath in general appearance. The upper branchlets bear the flowers, which thus clothe the pyramidal ends of the stems. The yellow flowers are individually narrowly oblong, and bent double about the middle, so that the face of the lower lip is pressed against that of the upper one. The flowers are abundant enough to give the plant a gay appearance.

DAHLIAS.—The dahlia, as is well known, has heretofore been divided into two classes, known as Show Flowers and "Fancy" Dahlias, the latter including the dark-tipped sorts and the striped flowers. At all the great Dahlia Exhibitions in Great Britain, and to some extent in our own country, this distinction has been kept up, as it also has in catalogues, as a guide to the amateur in selecting varieties for cultivation and show.

A writer in the *Gardeners' Chronicle* justly, we think, denounces this classification as unmeaning and useless, and, after stating fully his reasons, says, "these considerations lead us to urge upon dahlia growers the abandonment of both the name and the group of Fancy Dahlias, altogether; and this, not merely as regards their sale and cultivation, but especially as regards their exhibition." As a substitute he proposes the formation of the following Classes, which appear to be sufficient for all practical purposes, namely:—

SELF-COLORED, including all those of which the florets are of a uniform color, or nearly so.

LACED, including those varieties in which the ground color is pale (either white or yellow) and the florets are margined with some deeper color, analagous to, but not so well defined as the lacing in pinks.

TIPPED, including those varieties in which the ground color is the darker of the two, with a distinct tip of some light color, which is generally light or blush, excluding all the light ground flowers to which the term tipped has been heretofore applied.

STRIPED, including all those varieties which have flakes or bars of any one or more colors, whether light or dark, distinctly marked on a different ground color."

We think the classification an excellent arrangement, and should like to see it adopted by our dahlia growers. A stand of 12 or 24 of each class would have a far more attractive appearance than the stand of all shades and colors, intermixed, as generally shown. We should be glad to see the Massachusetts Horticultural Society the first to adopt it in the list of prizes the coming year.

Carnations and picotees are never indiscriminately mixed when exhibited, but are shown as two distinct classes, and the effect is evident to the most casual observer. Upon the same rule the laced, tipped, and self-colored dahlias should be shown separately, and for the same general effect.

658. *HEBECLINUM ATRORUBENS* *Nob.* DARK-STEMMED *HEBECLINUM.* (*Asteraceæ.*) Mexico.

A greenhouse plant; growing three feet high; with lilac flowers; appearing in spring; increased by cuttings; grown in good rich soil. *Ill. Hort.*, 1862, pl. 310.

A superb plant, of stately aspect, with very large dark-green leaves, fifteen or more inches long, and dark-red stems, covered with a thick pubescence throughout, producing immense corymbs of beautiful lilac flowers, more than a foot broad. It attains the height of three feet or more, with its large leaves completely covering the pot. It was introduced to Belgium by M. Ghiesbriht, who found it in Mexico, and it flowered there for the first time in 1861. From the character and native country of the plant it appears to be well adapted for planting out in the border in spring, where, if kept cool during the winter, it will, we think, flower abundantly. As an ordinary greenhouse plant it is a grand acquisition, and well worthy a place in every collection. (*Ill. Horticole*, Jan.)

659. CALADIUM (?) LEMAIREA'NUM *Hort.* LEMAIRE'S CALADIUM. (Araceæ.) Para.

A hothouse plant; growing two feet high; with white and green foliage; increased by offsets; grown in leaf mould, peat and sand. *Ill. Hort.*, 1862, pl. 311.

Another of the beautiful introductions of M. Baraquin, who has recently sent to Europe several specimens. In regard to the present plant its generic name is not fully settled, for the difference between Caladium and Alocasia is so minute that it is difficult to decide until more is known of the plant, to which, if to either, it belongs. In general aspect it is like the Caladium Beleymei, the leaves being very deep green, with large rays of white on each side of the central and lateral nerves. Its culture is the same as *C. argyrites* and other species. (*Ill. Hort.*, Jan.)

660. CAMELLIA TRICOLOR IMBRICATA FLORE PLENO. DOUBLE IMBRICATED TRICOLORED CAMELLIA. (Ternstroemiaceæ.) Garden Hybrid.

A greenhouse plant; with white flowers, striped with crimson.

A perfectly formed and distinctly striped camellia, among all the new varieties, has been a rare object. We have many that are slightly tinted or striped, but few or none before this in the way of the finest carnations. The present variety was raised in Florence, from the old tricolored camellia. The leaves resemble *imbricata*, and the flowers, which are large, full, and regularly imbricated, are broadly and distinctly striped, with very deep crimson, remarkably showy, and very beautiful. It is a decided acquisition. (*Ill. Hort.*, Jan.)

661. PÆONIA MOU'TAN, VAR. GLORIA BELGARUM. GLORY OF BELGIUM TREE PÆONY. (Ranunculaceæ.) Garden Hybrid.

A hardy shrub; growing two feet high; with brilliant rosy crimson flowers. *Ill. Hort.*, 1862, pl. 313.

This is said to be one of the most magnificent pæonies yet produced; the flowers being of a brilliant cherry rose and crimson, measuring more than 30 inches in circumference; it is also very sweet scented. This beautiful variety was obtained from seed in 1823 or 1824, by M. Goethals, an amateur of Ghent, who, until within a year or two, has refused to part with a single plant. It flowered for the first time in 1836,

and has continued to increase in perfection and beauty. M. Siebold, who visited M. Goethals, to see this gigantic flower, states that he never saw anything in China or Japan which equalled it. It will undoubtedly, ere long, be offered for sale. (*Ill. Hort.*, Feb.)

662. ANTHURUM LEUCONEURUM *Nob.* WHITE-NERVED ANTHURUM. (Araceæ.) Mexico.

A hothouse plant; growing one foot high; with variegated foliage; increased by offsets; grown in moss and peaty soil. *Ill. Hort.*, 1832, pl. 314.

A charming acquisition to our variegated-leaved plants, having somewhat of the aspect of a *Caladium*. The leaves are large, long, and deep-green, the nerves throughout being white. It was found by M. Ghiesbriht, in the south of Mexico, and requires treatment similar to the Mexican orchids. (*Ill. Hort.*, Feb.)

663. LEPIDOSTEMON PENTSTEMOIDES *Nob.* PENTSTEMON-LIKE LEPIDOSTEMON. (Schrophulariaceæ.) California.

A half-hardy plant; growing two feet high; with yellow flowers; appearing in summer; increased by cuttings; grown in rich, peaty soil. *Ill. Hort.*, 1862, pl. 315.

This is the *Pentstemon Lobbii* of the English gardens, where it was introduced from California by Mr. T. Lobb. It has now been placed in a new genus by M. Noble. It forms a small shrub, much branched; the flowers are golden yellow, and exhale a sweet orange-flower odor. The leaves are small, and deep green. (*Ill. Hort.*, Feb.)

664. CALADIUMS. C. REGALE, AND C. MACROPHYLLUM.

Hot-house plants; growing two feet high; with variegated leaves; increased by offsets; grown in leaf mould, peat, and sand. *Ill. Hort.*, 1832, pl. 316.

These are two new and beautiful varieties or species of *Caladium*, introduced from Para, where they were found by M. Baraquin.

The *C. regale* has cordate, hastate leaves, lanceolate, and peltate, on the limb, large, deep, shining, velvety green, with large mosaic spots of silver. *C. macrophyllum* has still larger leaves, with an ample limb, neatly cordiform, and peltate, of a clear beautiful green, with numerous white spots, disposed as in the preceding kind. The upper limb of each is bordered with blood red. They are both fine plants. (*Ill. Hort.*, March.)

665. RHODODENDRON, VAR. MINNIE. Garden Hybrid.

A hardy shrub; growing four feet high; with blush flowers, spotted with brown; increased by layers; grown in sandy peat. *Ill. Hort.*, 1832, pl. 317.

A beautiful hybrid, raised by Mr. Standish of Bagshot, near London, and one of the new strain of hardy kinds. Its hardiness, however, in our climate, must be uncertain till fully tried. It is a most beautiful light flower, very distinctly spotted with dark brown. (*Ill. Hort.*, March.)

666. ŒNOTHE'RA LAMARKIA'NA *Seringe*. LAMARK'S PRIM-ROSE. (Oenotheræ.) Texas.

A biennial plant; growing two feet high; with yellow flowers; appearing all summer; grown in good garden soil; increased by seeds. *Ill. Hort.*, 1862, pl. 318.

A very handsome species of the Œnothera, with numerous golden yellow flowers, measuring more than four inches in diameter. It grows erect, and the flowers appear successively on terminal stems, several being expanded at once. It was known to French botanists more than forty years ago, but was recently introduced to London from Texas. It seeds freely, and may be treated as an annual, blooming freely the first year, though strictly a biennial, and with slight protection quite hardy, blooming the second year. It is a grand acquisition to every garden. (*Ill. Hort.*, March.)

General Notices.

PRUNING THE GLYCINE (Wistaria.)—The Glycine is propagated by layers, and then kept in pots, as Mr. Fish keeps his extra geraniums for beds, or rather on his principle, the plan which takes up the less room, cramped at the roots, so as to make a little bush of it, with the bottom of the bush ripened so as to be as hard and dry as the ribs of an umbrella. You, or they, or we, buy such bush like glycines, knock off the ball, and let the roots go free in planting, and we might let the branches go quite as free also.

You have often heard of the glycine doing no good for a length of time after planting; which failures all come from that fallacy at the first going off. All the little wiry branches of a so cramped glycine ought to be left alone the whole of the first year after planting, in order that each of them might add a few more leaves to operate on the roots; and it is far better not to prune the shoots till next spring, but to let them make another effort, and the roots will be thus set in motion the sooner in the season. Then, as

soon as the roots are fairly on the go, and the growing season is safely on the wing, by the turn of midsummer cut down the scrub of a glycine to the last eye, and by the end of the following week that one eye will come up as the asparagus shoots do in the spring—full, green and juicy. And now, nothing interfering, the roots will be able at once to sympathize with the onward movement, and the young growth will thus go on and increase to the end of the season, so that you will have a shoot from five to ten feet in length, and as free in the passages of the rising and returning sap as a “rod” on the rod system of pruning a Black Hamburgh grape.—(*Jour. of Hort.*)

MEALY BUG ON VINES.—Make sure of all the leaves and prunings, and burn them; then wash the whole wood. Wash with soap and soda water, as hot as it can be used. Wash all the live stems, after taking off the rough bark, with the same, at about 160°. Scrape off a couple of inches of the earth inside the house, water that too, with water about 160°; and fresh surface with new soil. Then paint the vines with a mixture of clay, sulphur and tobacco water, put on cool, and fresh paint all the walls, or color them with fresh lime and sulphur.—(*Jour. of Hort.*)

THE FOUR BEST STRAWBERRIES.—Rev. Mr. Radcliffe, the great strawberry and rose grower, of Rushton, whom we have occasionally quoted, writes as follows, regarding strawberries, after noticing several of the popular, or new sorts:—

The four best strawberries that I have ever had sent to me are Eliza (Rivers), Wonderful, La Constante, and Empress Eugenie. I have mentioned them in my article, together with Trollope’s Victoria, which Mr. May, at Blandford, says is “a first class strawberry,” (I do not) as my mainstay here; but the only strawberries here that cropped heavily, and were eatable at all times, were Eliza (Rivers), Wonderful, like Sir Walter Scott, and of the line of La Reine, and Bicton Pine. Trollope’s Victoria cropped but moderately, but it was always eatable. At the end of my article, 17th section, I thought that I did ample justice to Eliza, Wonderful, and La Constante, by saying they were the best, (*i. e.* most growable) substitutes for the Queen.—(*Gard. Chron.*)

BLACK ALICANTE GRAPE.—In reply to Mr. Lauri’s inquiry I beg to say, that I think his Black Alicante must be different from the one exhibited by Mr. Meridith at the late Great International Fruit Show. Mr. Meridith, I believe, obtained his plant from a vine which I have at this place. With me it is a very fine setter, and an excellent long-keeping grape—equal if not superior to West’s St. Peters, Lady Downes, or Barbarossa. In fact, I have cut the Alicante perfectly sound, when the others have begun to shrivel. Its good looks will recommend it to all grape growers. I find that the red spider, or thrips, do not trouble it—the foliage being very strong, and covered with a woolly substance, similar to that of the strawberry grape. When the bunches show themselves they look like a pink

spot just set in fine cotton wool. The vine is planted in an early house with Hamburgs, Sweetwater, &c., and in a late one with Lady Downes, Barbarossa, Muscat, &c. In both places it is, without exception, the freest setter of all of them; one planted over bottom heat, the other not.—(*Gard. Chron.*)

A NEW VEGETABLE.—There has lately been exhibited, at several meetings of the Royal Horticultural Society, a new vegetable, which promises to become a permanent institution among kitchen garden crops. It is a cabbage, in the form of Brussels Sprouts. The stem is about a foot high, bearing on its summit a good size hearted cabbage of the ordinary character; but the stem is covered with small cabbages, about the size of a small dessert apple. And these, when cooked, form an excellent dish, partaking of the flavor of a nice summer cabbage, and without the strong Savoy flavor which distinguishes the Brussels Sprouts. The merit of producing this variety is due to Mr. William Melville, Dalmeny Park Gardens, near Edinburgh, and a very good name by which to distinguish it would be to call it *Dalmeny Sprouts*.—(*Jour. of Hort.*)

GOLDEN HAMBURGH GRAPE.—Permit me to say one word about the Golden Hamburgh. I grow, for amusement, about 20 varieties of grapes, in pots. I find this kind a good pot grape, coming into bearing much sooner than the Buckland Sweetwater. One little cane, not much larger than a quill, grown from an eye, struck in February, 1861, produced this year seven fair sized bunches.—(*Gard. Chron.*)

Gossip of the Month.

TO OUR READERS.—In the present state of affairs the publication of a magazine has become a rather hazardous task. Paper has risen to such an enormous price, that for a time, not even the largest subscription list could make it profitable. As it is, only an increase of friends can prevent it from resulting in a positive loss. We have been in doubt what course to pursue, to increase our price, as one of our cotemporaries has done, or to decrease the number of pages, as another has done, and continue at the old rate. Upon reflection we have thought it would be more satisfactory to all our friends to adopt the latter course, hoping that, before the end of the volume, we shall be enabled to go on as heretofore. Consequently our subscription price will be \$2, but we shall occasionally reduce the number of pages, according to the press of communications, believing that we shall make the Magazine as interesting and as valuable as heretofore.

We must urge upon our friends to redouble their efforts to aid us, and to get up clubs, or send us an additional name. We will endeavor that nothing shall be left undone on our part to make it a welcome visiter to all.

AMERICAN POMOLOGICAL SOCIETY.—The Proceedings of the last Session in Boston, are now completed, and copies will be ready for delivery to members in a few days. As no copies are published for sale it can only be obtained by sending \$2, the price of membership, to Dr. T. P. James, Treasurer, Philadelphia, who will forward a copy.

Societies.

BROOKLYN HORTICULTURAL.

Dear Sir,—I send you a list of officers of the Brooklyn Horticultural Society, elected on December 2, to serve for the ensuing year:—

President, J. W. Degrauw.

Vice Presidents, Smith J. Eastman, D. P. Barnard, W. R. Anthony, R. W. Ropes, G. L. Ford.

Treasurer, J. W. Degrauw.

Corresponding Secretary, A. S. Fuller.

Recording Secretary, G. H. Van Wagener.

Librarian, S. B. Brophy.

Executive Committee, C. B. Nichols, George Hamlyn, Prof. Eaton.

Finance Committee, Walter Park, L. P. Barnard, R. W. Ropes.

Library, L. A. Roberts, A. S. Fuller, G. H. Van Wagener.

Premium, L. A. Roberts, G. Gamgee.

Fruits, Dailedouse, Jas. Weir, A. Bridgman.

Plants, Davidson, G. Hamlyn, E. S. Scott.

Vegetables, A. Chamberlain, V. B. Wyckoff, M. Collopy.

Inspectors of Election, T. Caranack, M. Collopy.

Yours, respectfully,

G. H. VAN WAGENER.

Brooklyn, N. Y., December 13, 1862.

PENNSYLVANIA HORTICULTURAL.

The Annual Meeting of this Society was held in November, when the following officers were elected:—

President, J. E. Mitchell.

Vice Presidents, J. Dundas, M. W. Baldwin, Caleb Cope, Fairman Rogers.

Corresponding Secretary, W. Saunders.

Recording Secretary, A. W. Harrison.

Treasurer, H. A. Drew.

Professor of Botany, T. P. James.

Professor of Hort. Chemistry, Prof. J. G. Booth.

Professor of Entomology, S. S. Ruthven.

ILLINOIS STATE HORTICULTURAL.

This Society held its Annual Session of four days at Bloomington, commencing on Tuesday, the 3d of December. The number of members in attendance was larger than at any former meeting of the Society, including a goodly number from adjoining States. The meeting was called to order by O. B. Galusha, who delivered a brief address, which we may again refer to. At the close of the proceedings the following gentlemen were elected officers for the present year:—

· President, G. W. Minier, Mackinaw, Tazewell County.

Corresponding Secretary, W. C. Flagg, Moore, Madison Co.

Recording Secretary, K. H. Fell, Bloomington, McLean Co.

Treasurer, Samuel Edwards, Lamoille.

Vice Presidents, 1st District, Jon. Perkins, Hope; 2d, Dr. C. N. Andrews, Rockford; 3d, A. B. Whitney, Franklin Grove; 4th, J. H. Stewart, Quincy; 5th, W. A. Pennell, Granville; 6th, J. O. Dent, Verona; 7th, M. L. Dunlap, Champaign City; 8th, O. M. Colman, Bloomington; 9th, C. C. Sturtevant, Beardstown; 10th, J. Huggins, Woodburn; 11th, G. A. Montross, Centralia; 12th, Geo. Barry, Alton; 13th, F. J. Evans, South Pass.

Massachusetts Horticultural Society.

Saturday, December 6, 1862.—An adjourned meeting of the Society was held to-day—the President in the chair.

The Executive Committee recommended an appropriation of \$3200 for premiums, gratuities, &c., the same as in 1862, to be divided in the same manner.

Adjourned two weeks, to December 20.

December 20.—An adjourned meeting of the Society was held to-day—the President in the chair.

No business of importance was transacted.

December 27.—An adjourned meeting of the Society was held to-day—the President in the chair.

The Flower Committee, Library Committee, Fruit Committee, Garden Committee, and Vegetable Committee, made their Annual Reports, which were read, accepted, and ordered to be printed.

The Treasurer, and Messrs. Stickney and Wilder, were appointed a Committee to settle with Mount Auburn.

Messrs. Stickney, Austin, and Burr, were appointed a Committee to nominate a Committee of Arrangements for the ensuing year.

The Committee for Establishing Premiums made their Report, which was referred to the Executive Committee.

Meeting dissolved.

Horticultural Operations

FOR JANUARY.

FRUIT DEPARTMENT.

WINTER set in early, and the first part of December was quite cold, the temperature falling to 2° below zero. The closing half was milder. Such weather has stopped nearly all out-door work, and transferred the labor to the forcing house.

GRAPE VINES, in the earliest houses, will now be out of flower, and swelling their fruit. Care must now be taken that the border is kept warm and protected from cold rains. The in-door temperature need not be too high at night, but in cloudy weather good fires should be kept up, and plenty of air at all favorable opportunities. Stop the laterals as they push too far, and commence thinning the berries in good time. Vines in the grapery or greenhouse should be pruned once, if not already done, and be thoroughly cleaned and washed, especially if troubled with insects. They will begin to break next month. Cuttings may be put in now, if desirable.

GRAPE VINES, in pots, may be introduced into the greenhouse, or warm grapery. Syringe often.

PEACHES, in pots, may be brought into the house, and started slowly into growth.

STRAWBERRIES, in pots, now placed on a warm shelf, close to the glass, will produce an abundant crop.

ORCHARD-HOUSES should be well ventilated in warm weather, to keep down the temperature. Protect with mats or hay in very severe frosts, if there is no flue or heating apparatus.

FIGS, in pots, now forwarded in the house, will produce an early crop.

FLOWER DEPARTMENT.

The recent cool and cloudy weather has retarded the growth and blooming of many plants; but with the increase of sun and longer days, more heat may now be applied to make up for the tardiness. In fact, December is the worst month, after which everything seems to feel the influence of the coming season. The same temperature that would benefit plants now would materially injure them in the dark days of last month. Prepare now for spring work, by hastening on the propagation and potting of all such plants as are wanted. Look after cold frames, and air them when a turn of warm weather sets in.

PELARGONIUMS will soon be prominent objects of attraction, and the repotting should go on as fast as convenient till all are done. Tie out the plants at once if large specimens are wanted, and give air freely to keep them stout and short jointed. Pinch the tops of leading shoots if showing a tendency to run up. Turn the plants round weekly, and keep them rather dry for a time.

CAMELLIAS should be rather more freely watered at this season; syringing in all good weather, especially after heavy fires. Repotting may be done now with safety, if the plants really need it.

AZALEAS, placed in a warm part of the house, will begin to show signs of blooming, and a succession may be kept up by introducing new plants; but specimens, intended for late flowering, should be kept rather cool and dry. Employ the time, at this leisure season, to tie them into shape. See that the black thrip is not infesting them; if troublesome, fumigate once or twice to destroy them. Young plants, which it is desirable to bring on rapidly, may be placed in a warm situation, and watered and syringed to obtain an immediate growth.

BEGONIAS should now be shaken out of the old soil, divided and repotted, placing them in a warm place, and keeping them rather dry until they begin to grow.

GLOXINIAS AND ACHIMENES may be potted now and started into growth, where there is the chance of giving them a warm berth.

FERNS, which have been kept rather cool, and in a dormant state, may now be repotted and brought into full growth.

JAPAN LILIES, potted in November or December, may now be placed in the greenhouse, to forward their blooming.

FUCHSIAS should now be shaken out of the old soil, pruned carefully, and repotted, placing in a cool place, and watering sparingly till they begin to grow.

ROSES, taken up in the autumn, and kept in a cold frame, may now be introduced to the house, where they will soon begin to bloom. Repot young stock.

NEAPOLITAN VIOLETS, in frames, now brought into the house, and placed on a warm shelf, near the glass, will bloom abundantly.

SEEDS of some kinds of Annuals may now be sown, such as petunias, verbenas, &c. &c.

HEATHS should have a cool, airy place, near the glass, and away from the flues, as far as possible, as they dislike fire heat. Water more freely as they begin to flower.

AMARYLLISES may be potted the last of the month.

VERBENAS, and other bedding plants, put into small pots, several in each, may now be potted singly, and have a good place near the glass.

CALCEOLARIAS AND CINERARIAS, if in too small pots, may have a shift into a larger size. Keep them clear of green fly by occasional fumigations with tobacco.

CHRYSANTHEMUMS may be propagated now, if very large specimens are wanted.

CALADIUMS, of the various kinds, may now be divided and repotted, using sandy peat, and watering carefully, until the shoots appear above the soil.

ACACIAS, and other free flowering plants, should be more abundantly supplied with moisture now.

CYCLAMENS should be kept cool, and in a light airy place. Water cautiously.

MISCELLANEOUS PLANTS should be looked over, staked up and repotted, if required.

SEEDLING FRUITS.

THE production of seedling fruits is one of the most interesting, as it certainly is one of the most important, branches of pomological science. It has enriched our gardens with more beautiful trees, while it has supplied our tables with the most delicious varieties. Go back a few years and count up the number of excellent kinds of our most popular fruits. Their number was limited enough; now it swells out to a vast catalogue. A little more than a quarter of a century ago, and half a dozen pears composed the entire number of profitable sorts; a quarter of a century further back still, and the same number of apples made up nearly our stock of useful varieties. The same may be said of plums, cherries, and peaches, and a less number still of the smaller fruits. We had at the former period only the Isabella and Catawba grapes, and the Early Virginia and Wood strawberries. Look at the condition of all these fruits at the present time. Their name is legion. And though many of them are worthless additions, those which come up to the rank of an excellent fruit are so numerous as to confuse the amateur in making a selection for cultivation.

How has this all been accomplished in the face of the evidence of foreign as well as American* pomologists, who have told us that seedlings of the old fruits have a tendency to go back to the original type, and so well-founded was this belief that the lamented Van Mons spent a long life in his efforts to accomplish this object by another mode—the successive reproduction of fruits from their normal state—educating them up to a point beyond which improvement was slow or improbable, for one life could not fathom the problem. Yet we see the result, and that too without much apparent labor or care in bringing it about. Is it that our American climate is so much more favorable to the production of seedlings—for our

* Even the late Mr. Downing stated that fruits, when reared from seeds, *always* show a tendency to return to a wilder form.

remarks have especial reference to our own fruits—than the climate of Europe, or at least of Great Britain? Or is it that we have been more careful in the selection of seeds? We cannot see that the latter has been the case, and hence we must fall back upon the former theory; for the evidence of Mr. Rivers seems to prove that there is a very slight variation in Great Britain, though the evidence of M. Gregoire Nelis makes this variation much greater in Belgium. But what we have to deal with is facts, and these show that in the last thirty years a larger number of superior fruits have been produced in the United States than in a whole century in all Europe.

Take the apples, of which not half a dozen foreign sorts are considered worthy a place in the garden; of plums, only the Green Gage and a few others; of peaches, few or none; of strawberries, but half a dozen or so, and of cherries a very few, while even the far-famed foreign pears are rapidly giving way to American varieties. Our horticultural journals can scarcely find space to even announce the yearly acquisitions, and our standard works on pomology swell up to the size of an encyclopedia in the briefest description of these fruits.

Without intending to pursue these inquiries to greater length at this time, we pass over the train of ideas which would make our article too extended—reserving them for another opportunity—to notice some interesting information concerning the production of seedling fruits by Mr. Rivers, a veteran in the work, having devoted nearly fifty years to this interesting subject, and during which period he has raised 80,000 seedling plums, as well as thousands of other fruits, the results of which form the substance of his remarks. As the information will undoubtedly prove highly interesting, though but little has been accomplished, we shall quote rather freely from his communication in the *Gardeners' Chronicle*:—

PEARS.

When at Namur last September, at the Pomological Congress, my son had the pleasure of an introduction to M. Gregoire, who in his kind cordial manner not only told him how he raised his seedling pears, and brought them into bearing by

frequent removal, all of which you have told us, but gave him specimens of all his "gains" (seedlings), and promised him scions of such as he approved of. One seedling he tested was a large and particularly beautiful pear, ripening about the end of September, and keeping till the middle or end of October; this was of the most exquisite flavor.

From all that I have observed I am inclined to think that M. Gregoire's system will not succeed in the climate of England as it does with him. Amateurs in England who may wish to grow a large number of seedlings in a small space will find annual removal beneficial, for it will make the trees compact, and in time fruit buds will make their appearance, but owing, as I presume, to the want of force in our summer climate, ten years generally elapse before this desirable end is attained. In some few cases, by grafting the young shoot of a seedling pear in the stem of a pear tree in bearing on the quince, I have made it produce fruit a year or two, or three, before the original seedling tree, but if the latter be properly cultivated, they generally march together, and the grafted shoot and the original tree bear fruit simultaneously.

The most satisfactory mode of raising seedling pears in this country is to sow the seed in pots in December and January, to place the pots in gentle heat in February, and as soon as the plants make their appearance to follow the system of M. Gregoire in pruning their roots, only instead of planting them out they should be placed in 4-inch pots in or on bottom-heat. In April they may be potted into 6-inch pots, and in June into 8 or 14-inch pots; they may then be removed to the orchard-house, or kept on bottom-heat at pleasure. By this simple mode of culture fine trees with a stout healthy stem, three feet in height, may be obtained in one season. The following season the trees may be grown in the orchard-house till they bear fruit, but they should be confined to 10-inch pots and repotted and root-pruned in the autumn of every season, and kept in the orchard-house all the winter. It is the dryness of their roots in winter and the favorable climate they make their growth in in summer that brings on early maturity, so that under this system a pear

tree may be expected to bear fruit in six years, while on the removal system of seedling pears out of doors, ten or twelve or more years must pass before seedling pears (with a very few exceptions) come into bearing. Last year I had one tree out of three or four hundred twelve-year old seedling trees that bore fruit, and that was the Beurré d'Aremberg, but it was simply a good, but not a remarkable pear. In raising seedling pears the origin of each should be written in a permanent label. Without this the interest in the progress of the seedlings is much diminished. I have noticed some interesting characteristics in seedling pears which under the risk of being tedious I am tempted to mention. There is a sort of family race-like character in them to me, remarkably interesting.

If you raise two or three score seedlings, we will say from *Passé Colmar*, you may observe the adherence to the parent in the habit of the trees, with some slight deviations—in fact a family likeness in leaves, and shoots, and general habit; this, as far as I have yet seen, goes down to the fruit. The *Passé Colmar* is remarkable for this adherence to its type.

Glout Moreceau is equally so, for if you sow some twenty pips taken from two or three fine specimens of this large handsome fruit, and watch the progress of the young trees they produce, you will perceive a strong family resemblance in their habits. *Beurré d'Aremberg* likewise produces from seed a race with a strong family resemblance. *Marie Louise*, *Knight's Monarch*, *Beurré Capiaumont*, and above all *Josephine de Malines*, give seedlings that, making some allowance for the thorns which almost invariably are more or less abundant on young seedling pear-trees, show strong marks of the race from which they have sprung.

Among the seedlings showing the marks of race which I have mentioned, there are here and there one that from the first shows a marked difference in habit; these are at once of great interest to the pear raiser, for from these vagaries of nature, he may expect something new.

All that I have hitherto said relates to pears raised from fruit, the blossoms of which have been unfertilized with other sorts. My experience with cross-bred pear seedlings has not

been so extensive, but I may one day tell the results of my seedlings from fertilized flowers. It seems from the experience we have gained, that the scientific mode of raising new pears by cross-breeding has not done much for us, and that chance has done much more—for to chance we owe Marie Louise, Winter Nelis, Louise Bonne d'Avranches, or de Jersey, as we improperly call it, Joseph de Malines, still the finest late pear known, and many others. To cross-breeding we owe Knight's Monarch, which I think is the only well authenticated case we have of a fine pear raised from a fertilized flower, and a very noble pear it is. I had nearly forgotten that Mr. Williams of Pitmaston, raised several cross bred pears; among the best is the Gansel's Seckel, between the Gansel's Bergamot and Seckel pear.

I have, I think, sufficiently pointed out the peculiarities of seedling pears, in adhering to a certain extent to races. I will now mention some other peculiar traits in them. Seedling pears raised from late sorts will often bear fruit like the parent in form and general appearance, but for the most part they will ripen earlier, as if Nature had said, "You must not go beyond my tether; I cannot allow you to have Winter Nelis pears that will keep till June."

To illustrate this I may mention that some twenty years since I raised a score or two of seedlings from the Ne Plus Meuris pear—the flowers not fertilized, as I much wished this valuable late pear pure, but I hoped to improve it in size and beauty. The young trees could scarcely be distinguished from their parent in leaves and shoots; they all bore fruit, but not one was equal to its parent in keeping properties; some were larger; my hopes were very sanguine, but they were all ruthlessly crushed, for my hopeful seedling Ne Plus Meuris pears all ripened in the autumn, and the trees were destroyed. About the same time I raised one or two seedlings from that small, nice flavored, late keeping pear, the Duchesse de Mars; these proved abundant bearers, and of pretty good quality, but they ripened in October, a month in which we are surfeited with pears. Some years after that period I raised a few seedlings from Beurré d'Aremberg; one of these bore fruit in 1859, and proved like its parent in the

shape and size of its fruit, but it ripened the end of August ; it had the same icy-cold juice peculiar to B. d'Arenberg, and was particularly delicious in the hot weather of that summer and autumn. It was so highly in flavor with the wasps and flies, that every fruit would have been destroyed if they had not been placed in muslin bags. This tendency in late pears to produce early varieties is just now illustrated by Mr. Graham's Autumn Nelis, which is equal in excellence to its parent, the Winter Nelis, but ripens in September and October. This may not be an invariable rule, for with M. Gregoire, I have reason to believe that late pears produce late pears ; still, as far as my experience has gone, it is a curious fact.

I have the glimmering of an idea that seedlings from new kinds of pears vary more than those raised from old varieties, and have not that tendency to a race-like character ; thus seedlings raised from seedlings of Marie Louise—say Hughes's Victoria, would vary more than those raised from its parent. This, however, is to be learned by experience. Alas ! that pomological experiments eat so into one's life-time. A pomologist ought to live twice the three-score-and-ten years allotted to man.

PEACHES.

Mr. Rivers's experience with peaches will be of less interest to our cultivators, who raise them by the million without any care, though Mr. Rivers states that "the raising of new pears is an interesting employment, but not to be compared with that arising from raising of peaches and nectarines. If orchard-house culture," he says, "had done nothing more than facilitating the raising of seedling fruits, it would have deserved some small show of gratitude from the gardening world."

Mr. Rivers sows his peach stones in pots in the orchard-house ; which may appear surprising to us who plant them as we should beans or peas in the open ground ; and with repotting and forcing he is enabled to get a tree into bearing the third year. Mr. Rivers then gives in detail the result of some of his experiments, as follows :—

I commenced my experiments in raising peaches and nectarines from seed soon after the advent of orchard-houses, for being struck with the earliness and goodness of some Early York peaches on a tree trained to a wall—one of the first I imported from America—I sowed the stones and raised some fifteen or twenty trees. These have all borne fruit, having a strong likeness to the parent in leaves and flowers. Two have, however, given larger fruit, one of which is larger and earlier, the other larger and not quite so early. The first I have thought worthy of the name of the Early Victoria, which in common with its parent has a most grateful delicious flavor. I mention this batch of seedlings with additional interest, because one tree exactly like all the others with its glandless leaves and large flowers bore nectarines of a large size and with yellowish flesh. Now there was not a nectarine tree on the wall, nearly 300 feet in length, but some yellow fleshed American peaches.

My second experiment was with the new White Nectarine. This, as is well known, requires a warm soil and a warm summer to ripen it well, otherwise it is too acid. I raised several seedlings, one of which I at one time thought of naming, as the tree is hardier than its parent, and its skin of a more silvery whiteness, but I found no improvement in size or sweetness, so it has merely taken the place of its parent in the nursery, because it is a better grower and more hardy—perhaps a few days earlier. With one exception, the others raised at the same time proved exactly like the parent, but that exception has proved of great interest, for it is a large peach with a silvery white skin. The tree has the same leaves and the same large pale flowers as its parent the White Nectarine, leaving no doubt of its origin. I mention this emphatically, as Monsieur Carrière through a friend wrote to me expressing some doubt if a peach could be raised from a nectarine, and *vice versâ*. I may add that French pomologists do not allow of our distinction of free-stone nectarines; they say they are properly peaches, and that “*tous les Brugnons se distinguent des autres pêches par leur peau lisse comme vernissée, et leur chair adhérente au noyau.*” Who is to decide? My next experiment of interest was with the

Stanwick nectarine; you may, perhaps, Mr. Editor, remember sending me some fruit, (four in number,) of this very remarkable sort, when it was being propagated here for the Duke of Northumberland. The stones were sown, and in due time four trees made their appearance, and were numbered 1 to 4, all much alike in their habit; they all bore fruit with exactly the flavor of their parent, but differing slightly. No. 3 had more color, and did not seem inclined to crack like its parent. No. 4 was perfectly green, but its fruit were larger; from No. 3 I at once raised seedlings without fertilizing its flowers, and to my great satisfaction I find these have departed from the type, for their leaves and shoots are like those of the Elruge nectarine; the trees are full of blossom buds, and will I hope give plenty of fruit next season. From my first experiment I thought this most distinct kind would not vary unless its flowers were fertilized, but it seems that it is merely a question of time, and that fruits and flowers when (shall we call it?) domesticated and propagated from seed, now vary to a great extent. I have presumed that the Stanwick nectarine as grown in Syria would be in a semi-wild state, and that there it would reproduce itself without any material variation.

In narrating my experiments with late pears, I have mentioned their tendency to produce comparatively early varieties from seed. This I find carried out to a certain extent with peaches. From Gregory's Late peach, a very good melting free-stone sort, I have a tree which produces large Pavies or Clingstone peaches, which ripen fully a month before its parent.

From Pavie de Pomponne, one of the largest and latest of peaches, I have raised a very fine melting free-stone peach much like its parent in the beautiful waxy tint of its skin, and in its very large flowers and leaves, but it ripens a month earlier or just before the Late Admirable.

From the Salway peach, very soon after it was introduced, I raised a seedling of the same bright golden color as its parent, but it has always ripened from a fortnight to three weeks earlier. I thought it so good in 1858, when the comet was blazing in the autumn of that year, that I named it the

Comet peach ; it is really a nice variety, but ripens with the crowd of peaches. I have in the course of my experiments met with other cases in which the stones of late peaches have produced comparatively early sorts.

Early peaches seem to produce their like, for in addition to my seedlings from the Early York peach mentioned above, I have raised one from a very early Pavie called Grosse Montagne Précocé. I was much struck with the size and earliness of this clingstone peach, and at once determined to make it the parent of a new race. Only one stone out of several gave a plant, and that proved to be a large oval melting peach, early, but not so early as the Early York, and so I named it the Early Albert. The tree is remarkable for its hardiness and free-bearing qualities. Its parent gives large flowers ; the flowers of the Early Albert peach are small.

The Royal George peach reproduces itself from seed with rare exceptions. One among several that bore fruit last season proved to be an exception, for although it gave small flowers and serrated leaves, its fruit were of a bright golden yellow, and its flesh of the same color ; this may be worth naming the Golden Royal George, but caution must be exercised or we shall be overdone with new peaches as we are with new pears.

The Noblesse peach seems almost to possess the quality of a species, for it is very rare to find the least deviation in the fruit that seedlings raised from it give, nor in the leaves and flowers. The Grosse Mignonne possesses the same quality, for out of twenty seedlings it is rare to find much deviation from the parent stock. Last season one tree out of several gave small flowers, instead of those large bright rose-colored ones peculiar to the sort, but its fruit does not differ. The Walburton Admirable reproduces itself from seed, with some little variation in the size of the fruit.

I have now to notice some remarkable vagaries in seedling peaches. A seedling from that very dark-colored peach which we call the Bellegarde, and the French Noir de Montreuil produced some small very dark-colored nectarines, of no particular value, but of interest because of the parentage of the tree. The Bourdin peach, a well-known late melting

sort, which generally reproduces itself from seed with but little variation, has given me a seedling nectarine of quite an original type, and likely to be the foundation of a new race of late nectarines. It is large, oval, partially covered with russet, of a dull red on its sunny side, and of a deep crimson next the stone, from which it parts readily. It ripens about the same time as its parent, viz., the first week in October, and if placed under glass in the sun for a few days its flavor is piquant and excellent. The Pitmaston Orange nectarine, said to have been raised from the Elruge, but bearing the strongest family likeness in its large bright blossoms and orange-colored fruit to the Brugnion Violet Musqué of the French, except that it is a free-stone, adheres most pertinaciously to its race. Out of twenty or more seedlings raised from an old tree here nearly all proved exactly like the parent, with some exceptions, one with different glands, and ripening about a week earlier, the other with large oval and very beautiful fruit, ripening about ten days later than the parent stock. There was, however, one remarkable exception in this batch of seedlings, viz., a large crimson peach of a most excellent flavor. I have a second generation of seedlings raised from the two seedlings above mentioned. They have nearly all borne fruit, all of the same color and quality as the Pitmaston Orange, varying slightly in size. From the peach tree with its singular origin, now about seven years old, I have raised seedlings coming into bearing. If they produce nectarines, which I hope for, the experiment will end most interestingly. The Hardwicke Seedling nectarine has given a seedling with the large flowers and serrated leaves of its parent, but its fruit worthless clingstone peaches. The Newington, a clingstone nectarine, has given a seedling producing late melting peaches, good but not better than the Late Admirable peach. The Fairchild's Early nectarine, one of our oldest varieties, and very beautiful as an orchard-house tree when covered with its bright golden fruit, reproduces itself without the least variation either in leaves, fruit, or flowers.

Observing the great tendency to vary in the seedlings raised from peaches and nectarines, I did not at first think of fertilizing their flowers so as to bring out any new feature; it

was not till I saw the defects of the Stanwick nectarine that I felt a wish to improve it or to impart to some other sort its peculiar and excellent flavor. I therefore fertilized the flowers of the *Violette Hâtive* nectarine, hoping to procure a variety partaking of the qualities of both parents. From the flowers thus fertilized I raised several seedlings, only one of which partook in its sickle-like leaves of the habit of the Stanwick.

In its third year, 1861, this interesting tree, which I had watched with a parent's eye, bore some ten or twelve fruits; these happened to ripen just at the time when a meeting of the Fruit Committee at South Kensington early in September took place—a matter of chance, for owing to the committee meeting only once a fortnight it is often difficult to place perishable fruits before it for an opinion. The nectarine was highly approved of, and named the *Victoria* nectarine. It is a perfect specimen of a cross-bred fruit, having the shape, flavor, and leaves of the Stanwick, the male parent, with the small flowers, redness at stone, and earliness of its female parent, the *Violette Hâtive*. Another cross-bred nectarine, between the *White* nectarine and the *Elruge*, the former the male parent, bore fruit for the first time the same season. This is equal in quality to the *Victoria*, but very different in flavor, and was named the *Albert* nectarine. It is one of the largest of nectarines, and has the vinous piquancy of the *White* nectarine with a richer and more saccharine flavor. Its color is greenish white with the rosy cheek of the *Elruge*.

It will be observed that I have in this I fear too lengthy article mentioned the origin of my seedlings. This I have been enabled to do from great exactitude in my operations. During the fruit season pots filled with earth are always at hand, with a blank wooden label stuck in each. Whenever a choice fruit from hybridized flowers is eaten, its seed is at once sown, and its name, origin, and time of sowing written on the label. It is so interesting after a few years to see suspended to a seedling tree, we will say, bearing large peaches—“From *Elruge* Nectarine, 1857.”

Want of space compels us to omit his account of seedling plums, to us the most interesting, until our next.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

ON THE TRANSPLANTATION OF BLOSSOM BUDS. BY T. A. KNIGHT.

It has been long known to naturalists (says Mr. Knight) that the blossom buds of trees are generally formed in the season preceding that in which they unfold and execute their office; and the art of removing buds from one tree to another, was probably almost as well understood two thousand years ago as at present. The experiments which Mr. Knight proceeds to state prove that this may be done with much facility, and probably, in some cases, with considerable advantage. He observed in the autumn when his experiments were commenced, that the suckers which had sprung from the roots of the rose trees in his garden, were in a proper state to receive buds in the end of August; and that buds which appeared to contain blossoms might at the same period be taken with facility, from the branches of trees of more valuable varieties of the same species. The largest and best buds he could procure were, therefore, inserted into scions from the roots of other plants; and these buds being abundantly supplied with nutriment, afforded much finer roses than they would have done, had they retained their natural situation.

He afterwards repeated many similar experiments upon the pear and the peach-tree, and with equal success. An old and unproductive pear-tree, that grew upon a northwest wall, was pruned very closely, so as to cause the protrusion of many strong, succulent shoots. Into these he inserted apparent blossom buds of the tree *St. Germain*, and the *Winter Verte longue* pears, at different periods. Many of these were inserted in the end of July, and the beginning of August; and these generally vegetated soon afterwards and afforded leaves only; and the remainder which did not then vegetate still continued mere leaf-buds. But most of those which were not inserted till the end of August, or the beginning of September, succeeded most perfectly, and unfolded with greater vigor than the buds of the trees from which they were taken.

He found those buds of the pear-tree to succeed best which had formed upon the bases of abortive bunches of blossoms of the preceding year; and that instead of taking out the wood of the bud wholly, as usual, it was most advantageous to let it remain in small quantities, and being paired very thin.

Some buds were inserted into seedling plants of four months old only, and others into yearling plants, and these succeeded so far as to live perfectly; but being inserted in July, they did not produce fruit. He thinks, however, that pears might be obtained even from yearling trees in pots, though such fruit would probably be without rich flavor. But buds inserted into the strong succulent shoots of old trees are likely to afford abundant crops of very fine pears, and these might be obtained with little trouble, for a moderately skilful operator might insert at least three hundred buds in a day. Mr. Knight's experiments with the peach-tree were attended with similar results.

We have not found confirmation yet of the full success of Mr. Knight's experiments with blossom buds; and it is probable that the small proportion which are likely to produce fruit, renders the experiments practically of but little value.

ON INARCHING LEAFLESS BRANCHES OF PEACH-TREES.

Every gardener, says Mr. Knight, who has paid much attention to the culture of the peach-tree, must have observed that whenever the part of the bearing branch which extends beyond the fruit, is without foliage, the fruit itself rarely acquires maturity, and never its proper flavor and excellence. The blossoms, under such circumstances, set well, in some seasons much better than on other parts of the tree, and the fruit often grows with remarkable rapidity; but it will not subsequently ripen.

A peach-tree in Mr. Knight's garden of which he was very anxious to see the fruit, had lost, by the severity of the weather, all its blossoms except two, which grew upon leafless branches; and he was very desirous to preserve these, as well as to ascertain the cause why the peach and nectarine, under such circumstances, fail to acquire maturity. The most probable cause he thought was the want of the returning sap,

which the leaves, if existing, would have afforded, and the consequent morbid state of the branch. He, therefore, endeavored to derive the necessary portion of returning sap from another source. To obtain this object the points of the branches which bore fruit, were brought into contact with other branches of the same age that had leaves; and a part of their bark, extending in length about four times their diameters, was pared off immediately above the fruit. Similar wounds were then made upon the other branches, with which these were brought into contact; and the wounded surfaces were closely fitted, and tightly bound together. A union soon took place; and the fruit apparently in consequence of it, acquired the highest state of maturity and perfection.

The preservation of a few peaches, by the preceding process, is an object of small importance; but the result of the experiment points out clearly the office of the foliage under all circumstances, and may thus tend to throw some light upon the laws of vegetable physiology.

FRENCH CLASSIFICATION OF PEACHES. FROM A REPORT ON FRUITS, 1811.

The delicious fruit called *peaches*, as well as that distinguished under the name of *nectarines*, are classified by the most celebrated French gardeners according to a different system from that adopted in England, and one which for niceness of discrimination, is preferable to it. To the downy coated melting fruit, which parts easily from the stone, leaving only a few filaments adhering to it, they give the simple name of *peach*; the smooth coated melting fruit, which parts easily from the stone, they call a *violet peach*, or a *smooth peach*; the downy, or rough coated fruit, which adheres closely to the stone is called by them a *pavie*; and the smooth coated fruit, which also adheres closely to the stone, passes under the name of *brugnon*.

Considering the instances, some of which are enumerated in the Transactions of the London Horticultural Society, of peaches and nectarines growing on the same branch of one tree, one instance, in particular where a *peach* of that kind

called *La Chancelliere*, and a *nectarine* proceeded immediately from the same twig, and actually were in contact; the French are right, perhaps, in calling the nectarine a smooth peach. The difference in the taste of any variety of the peach, as well as some other characters, is greatly modified by a few degrees of latitude, so that it was found very difficult to recognize in London several peaches mentioned by Duhamel, from the description he has given of them. If we go to the south of France or Spain, or into the Southern States of North America, we find the melting peach as it is in England, becomes there woolly and dry, and is held in no estimation; but the hard one which adheres closely to the stone arrives there at a high flavor and great excellence; though it never becomes mellow in England, or even in Paris.

The committee therefore recommend the following rules by which the different varieties of fruit may be identified in spite of the modifications occasioned by differences of climate.

Desiderata.

Tree.—Description of it; if of vigorous growth, or a good bearer in general.

Bud.—Color, size, shape, and external appearance of it.

Blossom.—Size, color; if early or late.

Leaf.—Color, size, shape; if much or little serrated.

Fruit.—Shape, color, size, taste; its various excellences and defects; its general time of ripening about *London*; its qualities and appearances.

Stone.—Size, color, shape; if adhering to the flesh.

Aspect, Soil, Disorders, Defects.—The aspect and soil that suit it best; if recommendable for forcing; if peculiarly subject to any disorders or defects.

Propagation.—The best mode of propagating it. Vol. II., p. 63.

A CURIOUS FACT IN REGARD TO THE POTATO.

The winter potato is frequently planted (in the South of England) in the same ground that has borne an early crop of potatoes; and it was the practice of those who cultivate potatoes in Cornwall, *to get potatoes for seed every year, or every other year, from a granite soil*, well knowing that the

great increase in the produce well justifies the additional trouble and expense. Vol. II., p. 78.

ON MAKING WINE FROM THE LEAVES OF THE CLARET GRAPE.

The following facts are not of much practical importance ; but they may serve to show how easily wines may be made without the use of the grape or of any other fruit, in their composition :—

Mr. Knight having observed, in the Philosophical Transactions, that the tinging matter which appears in the foliage of young seedling vines, and that which afterwards gives color to their berries, is probably the same identical substance, was led to ascertain whether it might not be substituted for the tinging matter of the Purple grape, in giving the character of red wines to solutions of sugar and honey. A strong, astringent liquor possessing some portion of vinous flavor, was the produce of these experiments ; but the leaves employed did not contain sufficient tinging matter to afford what might with propriety be called a red wine. The partial success, however, of these experiments induced Mr. H. S. Matthews to try the effect of the leaves of the Claret grape, which usually acquire a very deep red color in the autumn. Two pounds and a half of the leaves of this vine were added to a gallon of water, and their tinging matter was extracted by boiling ; and three pounds and a half of coarse sugar was then dissolved in each gallon of this decoction. Fermentation succeeded, and a vinous liquor was produced. The color of this liquor was that of port wine, and its taste very similar to that of new port mingled with claret ; and it was generally admitted by a great number of members of the Horticultural Society, who tasted it, that it was better than such as they had met with in taverns, under the name of port ; and that it would probably be improved by age. It has probably the same medicinal properties attributed to port. Vol. II., p. 123.

SOME REMARKS ON PRUNING GOOSEBERRY TREES.

The gooseberry, though a useful and early fruit, is very generally neglected, no other attention being paid to it, than to prune the tree at random, once a year. The crop of fine

fruit is also often injured by having the largest and earliest berries previously gathered for tarts, while green. To prevent this, a sufficient number of trees of the earliest varieties should be planted in a separate part of the garden, and devoted exclusively for use when required for tarts.

Both these and the other trees which are intended to bear ripe fruit, *should be pruned twice in the year*; in the autumn as soon as the shoots have ripened their wood, leaving at least six inches distance between every branch, and shortening the small branches to two or three eyes. Again, the trees should be examined about the middle or end of June, and all improper suckers, and very luxuriant shoots, such as the French call *gourmands*, cut out; both these operations should be done with a sharp pruning knife. P. 146, Vol. II.

ON SOME VULGAR ERRORS AMONG GARDENERS RESPECTING INSECTS
BEING DESTROYED BY COLD; IN A LETTER FROM MR. SPENCE TO
SIR JOS. BANKS.

* *Vulgar errors* are prevalent in horticulture as well as in other arts, and one of these seems to be the notion, which we so often hear repeated, that caterpillars, grubs and slugs are destroyed by the cold of severe winters. The writer was led to doubt this general opinion by noticing the facts mentioned by *Reaumur* and *Lister* relative to the power of insects to bear cold uninjured. *Reaumur* found that a common caterpillar was not hurt by a cold 19° below 0 of his thermometer (11° below 0 of Fahrenheit) and *Lister* informs us that some caterpillars and hexapod larvæ, after being so frozen as to chink like little stones when dropped into a glass, nevertheless revived.

The writer (Mr. Spence) then proceeds to relate that after one of the severest winters he had known for many years, in his own garden, almost the first things he noticed after the frost had left, were hundreds of young caterpillars of the

* It will be observed that the compiler of these papers omits the use of quotation marks, except in particular cases. The reason for this omission is that the language of the original is greatly abridged in these compilations, and often materially altered; and the reader is supposed to understand that the substance of the extracts is wholly taken from the Horticultural Transactions.

gooseberry moth, quite uninjured, that had hibernated under the ruins of some flower pots which stood in the middle of the garden, exposed to every change of weather; and he never knew these insects so numerous or voracious as this spring. The case was precisely the same with regard to slugs, which in his own garden and those of his own acquaintances, were quite as numerous as before the winter. He also states that the grub which the previous year had so abounded in Holderness, that the herbage of many whole fields was laid waste by them, continued its ravages the spring after this cold winter, without any abatement.

He thinks, therefore, that the supposed destruction of insects by severe winters does not take place; but admits, at the same time, that severe winters may occasionally be the indirect cause of the destruction of some kinds of vermin by increasing the wants and industry of the birds that hunt and devour them. He mentions, for example, an occurrence on this very winter alluded to for its severity. The garden snail, (*Helix Hortensis*) as mentioned in the newspapers, had been sought out during this cold winter, with such unusual diligence by the thrushes (a bird resembling in its habits the common American robin) that in some places half a peck of fragments of the shells were found lying round the stones to which these birds brought them, for the purpose of breaking them and getting at the snails. Vol. II., p. 148.

ON THE WANT OF PERMANENCE OF CHARACTER IN VARIETIES OF FRUIT, WHEN PROPAGATED BY GRAFTS AND BUDS. BY T. A. KNIGHT.

New varieties of fruit have been generally supposed to be obtainable from seedling plants only; and every part of each seedling tree, which has been detached as a graft or bud, is usually believed to be capable of affording fruit of the same kind, if subsequently grafted upon the same stock, and cultivated in the same manner. This opinion Mr. Knight formerly entertained; but he was always at a loss to account for the existence of many kinds, which were obviously different, and which still more closely resembled each other than any varieties which he had ever been able to obtain from seeds. But

he was at length convinced that many varieties of fruit which are supposed to be totally distinct, have been propagated from branches of the same original tree; and that few, if any varieties of fruit can with strict propriety, be called permanent, when propagated by buds or grafts.

One of the instances of the variations above mentioned is the following: A tree of the *Yellow Magnum Bonum plum* (the *Dame Aubert* of Duhamel) which was forty years old, had always borne fruit of the usual color; but the previous year, one of its branches produced red fruit, in every respect perfectly similar to the well-known *Red Magnum Bonum plum*. He had also some years before, a *May Duke cherry* tree, one branch of which constantly produced oblong fruit, that ripened later than the produce of the other branches of the same tree, and was of greater weight but of inferior quality. Yet he was confident that neither of the branches above mentioned had sprung from an inserted bud or graft. He, therefore, did not hesitate to decide that the *Red Magnum Bonum plum* was a variety only of the *Yellow*.

He mentions also other plums as well as certain apples and pears, which had sported very considerably in this way. He, therefore, urges the necessity of selecting buds and grafts from such trees only as are found to afford each variety of fruit in its greatest state of excellence; or such as may happen to present any valuable peculiarities of character. Vol. II., p. 160.

VARIETY IN PLEASURE GROUNDS.

BY REV. A. D. GRIDLEY, CLINTON, N. Y.

ONE defect in many of our pleasure grounds is their monotony. They are monotonous in being mere copies of other grounds, and each is monotonous in its several parts. As to the first particular, it would seem that each place should demand a separate treatment, the plan being adapted to the shape and size of the premises, the "lay of the land" and the means and taste of the proprietor, &c. But it is of the second point chiefly, that we now propose to say a few words.

Tree is followed by bush, and bush by flower bed, and then the same things are repeated over and over again, in long and wearisome succession. This is the scope of the proprietor's originality. There is little object in walking through such grounds. The first rod or two contains the whole; after this, there is nothing to excite curiosity or to reward it.

Is not this a point, Mr. Editor, on which we need to bestir ourselves somewhat? Your counsel, Sir, is much needed here. And as a help in the general contribution, let me venture a few hints. Would it be wholly out of place to revive some of the ancient usages in ornamental gardening? as, for instance, that of tunneling. When one's grounds are uneven, the walks, instead of running around or over the mounds, may run under one or more of them. The soil excavated may be used in lengthening and banking up the tunnel. The arch should be supported by solid stone work, and the sides laid up with irregular masses of rock, just as they appear in natural scenery. The tunnel should not be so long or so winding as to render it dark, damp, or forbidding to the most delicate person. It should be wide enough to make a sort of grotto, which may be fitted up in a fanciful manner. Around the entrances, shrubs and vines may be planted to conceal it from the visitor until he approaches it.

Might we not gain in variety also, by a more effective use of conifers? Instead of scattering them at regular distances among deciduous trees, they might oftener be worked into groups, large and small, and of various outlines. Instead of relying so much upon the inevitable Balsam Fir and Norway Spruce, we might accomplish more by using also, the numerous pines, junipers, arborvitæ, &c., which give us more novel forms and shades of color. And though for all ordinary purposes, the natural shape of a tree is the best, yet for variety, something can be gained by subjecting a few specimens to the shears of the topiarist. The junipers need only a little tying-in and clipping to bring them into very dense, columnar forms. The native arborvitæ and hemlock respond quickly to the pruning knife. And indeed, hardly less can be said of the pines, spruce, and balsam firs; as many of your readers may have seen at Mr. Hunnewell's fine place, near Boston, and in the

engravings of Sargent's edition of Downing's Landscape Gardening. Such specimens scattered along the walks, at intervals, would produce quite a novel effect.

Much skill may be shown in the disposition of arbors and seats. We lately saw a simple but attractive arbor, made as follows:—It was set in the middle of a walk running east and west through a side lawn, the walk widening as it swept around it on both sides. Its general form was a parallelogram; it was roofed over, and had a double seat, one of them looking north, and the other south. The northern seat was designed for use in the heats of mid-summer; the southern for the cooler days of spring and fall. The seats were separated from each other by a partition, and the views from each were quite distinct,

For the purpose now considered, it is an excellent plan to lay off one's grounds into separate scenes. Not divided by straight hedge-rows or other stiff, impervious walls; but by scattered groups of shrubbery and low trees, or by flowing, leafy screens. The walks should run in easy curves from one section to the other, thus binding the whole into unity. There is, perhaps, no better way than this to keep alive the curiosity. The visitor enters one scene, and finding it complete, a distinct whole by itself, examines its several points at leisure, not knowing that there is anything more to engage his attention. But following the walk, he passes at length through or around a mass of shrubbery, and finds himself in an entirely new department of the place. The first was, perhaps, a flower garden; this, is a lawn. Its trees of various and rare sorts happily disposed; its surface skilfully graded; the grass verdant and neatly shorn and rolled; its walks, clean, hard, and smooth; its glimpses of other portions of the grounds, and its views, perhaps, of distant scenery, all combine to absorb his thoughts. But he has not yet reached the end of his walk; yonder the path branches off in another direction, and he is bound to push on and see what he shall see. He walks under a canopy of trees, or through an arbor dark with vines, and ere long emerges into another and new scene. It is a wilder place. It abounds in rockeries, bold masses of trees, and thickets of shrubbery. At one end is a miniature forest, with

half rotted logs and mossy stumps, and with ferns and all sorts of native plants growing luxuriantly. A stream of water has been conducted through this Idlewild, whose cascades make a lulling music. Our visitor leans over the rustic bridge and watches the playing fish, or studies the aquatic plants which flourish by the water's edge. The walk entices him on and on, until at length he finds himself at the point from which he set out. He has no definite idea of the extent of the ground over which he has passed, for he has seen no boundaries, and has been continually occupied with the various scenes which the walk has brought before him.

A waggish amateur of our acquaintance, makes his little paradise of a country-place—two acres, all told—to seem quite large and varied, by conducting his visitors over the same ground twice without their knowing it! He leads them each time in opposite directions, and his walks and their accompanying scenes are so adroitly managed, that few persons detect the manœuvre.

Something might be said here as to the varied effects produced by the introduction of rustic work, vases, sun-dials, and sculptured figures; as to the proper disposal of flowers, shrubs, and trees, singly or in combination; but the subject is endless and we must leave it. Perhaps the Editor or some of his able contributors will resume the topic, and from time to time, develop it as it deserves.

GRAPES FOR NEW ENGLAND.

BY WM. R. PRINCE, FLUSHING, L. I.

I HAVE perused your several articles on grapes and their culture, which are generally well digested, and to the purpose. But in your section, and at the more northern portion of the Eastern States, it seems necessary that those who have a desire to enter upon the grape culture should possess a knowledge as to the varieties which are sufficiently hardy to withstand the rigors of the climate, and at the same time of such quality as to render them worthy of culture, either for

the dessert, or for wine, or for both. Having cultivated nearly all the known varieties, I think I may safely furnish such a list. In New England the native varieties are all of the *Vitis labrusca* species, or family, which is one of the most hardy, vigorous, and robust of all the species of the grape. But there are several varieties of *Vitis cordifolia* which are equally hardy, and a few of *Vitis æstivalis* also. I have found vines of *Vitis riparia* of *both sexes*, growing wild, on the watery banks of Goat Island, Niagara Falls, and also in Upper Canada, but its small black berries are valueless.

Varieties of the grape whose hardihood will sustain the rigors of the New England States.—T. suitable for dessert; W. for wine; T. and W. for both:—

AMBER, or EARLY AMBER (Shakers)—T. and W. Dark amber, rather sweet, but little flavor, slightly foxy, drops soon.

AUGUST CORAL—T. Bright red, earliest, honeyed sweet, estimable.

ALBINO, or ALBINESS—T. White, good, much esteemed.

ALEXANDER—T. and W. Black, ovate, fair table, fine for wine.

ALVEY, or HAGAR—T. Black, very good, much prized.

ARIADNE—T. and W. Deep purple, fair table, fine for wine.

ARNOT, or ARROT. See Cassady.

BALDWIN, or BALDWIN'S EARLY. See York Madeira.

BLACK KING—T. and W. Early, small, good.

BLACK IMPERIAL—T. Earliest black, very large, quite sweet, melting at maturity, hangs long, highly esteemed.

BLACK GUIGNARD—W. Makes superior dark wine.

BLOOM. See Catawissa.

BOWMAN—T. Dark purple, early, very good.

BRADDOCK—T. Purplish, early, sweet, good.

CASSADY—T. Greenish white, medium, sweet, very good.

CANBY'S AUGUST. See York Madeira.

CARTER'S FAVORITE—T. and W. Black, fair for dessert, fine for wine.

CATAWISSA, or CREVELING—T. Black, very early, large, finest early market berry.

CLINTON—T. and W. Black, very early, fair table, makes very fine wine.

CONCORD—T. and W. Black, large, very good, fine for wine, hangs long.

CORIELL—T. Deep purple, very large, excellent, greatly esteemed.

CUNNINGHAM—T. and W. Black, small, excellent for dessert and wine.

EARLY AMBER. See Amber.

ELIZABETH—T. Dull white, sweet, very good, estimable.

ELSENBURGH—T. and W. Black, small, sweet, excellent.

EMPIRE—T. Dark, very large, sweet at maturity, hangs long.

EUGENIA—T. Black, early, sweet, good.

FRANKLIN—T. and W. Black, small, early, sweet, very good for table and wine.

GOLDEN CLINTON—T. Yellowish, small, mild acid, good.

GRIDLEY—T. and W. Purple, small, quality same as Clinton.

HANNAH—T. Dark purple, beautiful, sweet, very good.

HART'S WHITE. See Elizabeth.

HOLMES (FOX)—T. and W. Purple, large, tolerable for dessert, good for wine and preserves, hangs till late.

HARTFORD PROLIFIC—T. and W. Black, large, very early, very good, subject to drop in some localities.

KILBORN, or KITCHEN—W. Black, large, good for wine and preserves.

LABE—T. Black, large, very good.

LAKE'S SEEDLING—T. Black, large, early, sweet, good.

LOGAN—T. Dark purple, very early, size and quality of Isabella.

LOUISA—T. Black, large, quality of Isabella.

MARY ANN—T. Black, large, very early, quality and appearance of Isabella.

NARCISSA—T. Very dark, large, very sweet, delicious.

NORTH AMERICA—T. and W. Black, large, early, sweet, excellent.

NORTON'S VIRGINIA—T. and W. Black, small, very early, good for dessert when matured, makes very superior dark wine, immense crop.

OSMOND—T. and W. Dark, medium, very good.

OPORTO—W. Black, medium, astringent, makes wine like port.

PERKINS (FOX). Bronze red, very large, early, beautiful, some foxy aroma, sweet and good at maturity.

POND'S SEEDLING—T. and W. Blue, small, round, pleasant.

POTTER—T. Dark amber, very large, somewhat foxy, pleasant and sweet at maturity.

RAMSDELL (FOX)—T. Dull red, large, very early, sweet and pleasant at maturity.

SWATARA—T. Blue, small, excellent.

TAYLOR'S BULLITT—T. White, early, small, sweet, excellent flavor.

TROY HAMBURGH—T. and W. Dark purple, large, sprightly, similar to Isabella, not quite equal in quality, but earlier and vine more hardy, immense crop.

TRYON. See York Madeira.

WARREN'S CATAWBA—T. and W. Bronzed white, large, early, very sweet, aromatic, makes delicious wine.

WARREN'S SEEDLING—W. Black, thick bloom, dark juice, makes admirable port wine.

WHITE GLOBE—T. Bronze, large, musky, sweet, estimable, hangs long, and improves.

WINSLOW—W. Black, small, early, same type as Clinton, good for wine.

YORK MADEIRA—T. and W. Black, medium size, very early, sweet, juicy, pleasant for dessert, fine for wine.

Note.—Many hardy varieties are omitted in this list, they being miserable fox varieties, of no value, such as the Strawberry, Sage, Charter Oak, Blood's Black and White, Fitchburg, &c.

A FEW WORDS ON PEACH TREES IN POTS.

BY JOHN FALCONER, GARDENER TO O. BENNETT, SOUTH FRAMINGHAM, MASS.

HAVING read several articles in your Magazine on the culture of peach trees in pots, expressing your own views and experience, as also the views and experience of Mr. Hunnewell, I thought I might as an humble disciple of the art say a few words on this very interesting subject, more especially when, in this very difficult culture, it seems to be the theorist

and not the practical man who has the most to say in regard to it.

I have often thought that practical men could give better articles on most branches of horticulture, than those whose training and pursuits must tend materially to lessen their knowledge of gardening, compared to the true gardener. Yet it seems that, as a general rule, the owners of gardens and their adjuncts—from a common hot-bed up to a pinery, all the various glass-structures included with their contents—are far better understood, and the law can be laid better down by them to the public, than the experienced man, who has spent years in caring for and tending, and anxiously waiting the results of his brain-labor and hand-labor.

Why is this? I think the owner of a good garden with its usual appendages cannot as a rule know, or begin to know a tithe of the necessary skill needed and had by a gardener, who is a gardener. You are perfectly aware of that, and I think gardeners ought to come out of their shells and show their horns, and not let their employers do all the writing, as well as the ordering of the routine of the business.

And now about the culture of peaches in pots, as done and practised by a tyro in gardening. I have under my care from 50 to 100 peach trees in pots and tubs, and have had them for the last five years. About a third of them are now in flower in the early vinery, where they stand till the vines are so far advanced as to cause their removal to a succession vinery (for I have no orchard-house, so called, to keep them till they ripen their fruit) necessary. These two dozen trees, more or less, are in pots standing on the stage; they are three years from the bud, and were potted in the spring of 1861. When I got them, some I designed to grow in the pyramidal style, others I headed down to a foot above the pot; these I find do best. I like a fruit tree properly set off. They were potted in pots in proportion to their roots; mind that. Don't put your trees all in one sized pots. I started them in the greenhouse under the stage, and when the weather became warm, set them out of doors in an open aspect with their pots plunged, where they grew and made fine wood. I also pinched the young shoots as they advanced in strength, to

make the buds plumper and stouter, and in the fall I moved them into the cold vinery, where they were wintered. Next season, spring of 1862, they were shifted from the pots of 1861, into 10 inch up to 14 inch pots, and pruned so as to make good heads, for I wanted to get good wood for fruit. They started in March, and in May were set out of doors to grow and make their wood for another season. I pinched and disbudded as my judgment guided me, and in the fall of 1862, I had fine, young, healthy trees, full of flower buds. They were again wintered in the cold vinery up to the middle of December. Then I took them out of their pots, cut off the roots that had pushed through the pot holes, and removed the loose drainage, the drainage in which the roots are entwined I don't disturb. I also reduced the balls on the top, taking off as much of the old soil as possible, and put them in 16 inch or 18 inch pots, according to size. The soil I use is good turfy loam, with good rotted leaf mould or decomposed night soil when I can get it, for I am not particular about soil to a pinch of snuff as some are, using that which I find does best. But I am particular how I pot them, always giving good drainage, and I use for that purpose broken bones that are clean, not filled with putrid matter. I also, in potting, ram the earth as firm as I can with an iron rammer all round. I make it as tight as a drum-head. I think they fibre better when it is packed hard. Thus the routine is explained as far as the last shifting goes. Next fall or winter I reduce the balls by cutting off all the roots with a sharp butcher knife, at least two inches all round, for I have no larger pots than 18 inch, and I don't like clumsy, dirty tubs, or rather half camphene barrels (such as my largest trees are in). After shaving the balls I put them in the same sized pots, packing hard as before.

If the above is of any use to your readers I shall continue to write a little more about peaches in pots, to show that a man must be content to get a small crop when his trees are small and young; and that peaches in pots are luxuries which must be considered as such; and also, that employers ought to be satisfied if their gardeners, after every effort, do not have crops of peaches as abundant as potatoes.

POMOLOGICAL GOSSIP.

CREVELLING GRAPE.—This not very new grape, but recently brought more immediately into notice, is attracting considerable attention. It has been pronounced quite equal if not superior to the Isabella, while it ripens early, and is large and handsome. A cultivator in Pennsylvania thus writes us in regard to this variety: "In regard to the Crevelling, or Catawissa, we may say, truthfully, that it is one of the most valuable new grapes that we have seen. Its very earliness alone would entitle it to favor; but it has other valuable qualities. The gentleman that first introduced it into notice, F. F. Merceron of Catawissa, Pa., a few years since, brought a basket of the fruit to show us; after carrying it for three or four days or, perhaps, longer, we found not a berry had fallen from the bunches, which you will acknowledge is a great desideratum in its favor. The Crevelling, in point of flavor, we consider superior to the Isabella, and, in fact, well worthy of a trial by all our pomologists." Specimens were exhibited before the Massachusetts Horticultural Society as early as the 29th of September last, which were fully ripe, and were highly commended by the Committee on Fruits. These were raised in Salem, in an ordinary position, which shows its capability of ripening in the latitude of Boston. It appears to be quite as early, if not earlier, than the Concord. •

PRINCESS OF WALES PEAR.—A few years ago Mr. John Huyshe raised two new pears, named Victoria and Huyshe's Bergamot. These were said to be raised from a cross of the Marie Louise and Gansell's Bergamot. There were three seedling trees, the third one of which had not then fruited. This year one single specimen was obtained from the tree. This was very similar in appearance to its sisters. Its weight was 8 ounces, and it ripened the last week in December. Mr. Huyshe, in an account in the *Gardeners' Chronicle*, says Mrs. Huyshe took much care of it, but kept it in too warm a place, otherwise it would have kept three weeks longer; but it proved to be decidedly superior to either Victoria or Bergamot. It was tasted by several persons, with a good speci-

men of the Victoria, as a test, and although they did not know at the time what pear they were given to eat, the unanimous decision was in favor of the new seedling, and given without a moment's hesitation. Almost all those persons who tasted it were good judges of pears, three of them especially so. Two of them said it was the best pear they had ever tasted; and they were all astonished at the excellence of its flavor. Now I know that much reliance cannot be placed on a single specimen; but, looking at its large size and excellent flavor, I feel convinced that it will prove quite equal, if not superior, to either of its sisters. It has been named Huyshe's Princess of Wales.

LYDIA AND MICHIGAN GRAPES.—In our November number our correspondent, Mr. Kenrick, gave an account of this new grape, and stated that it was a seedling of Mr. Carpenter's of Kelly's Island. Mr. F. R. Elliott writes us in regard to this, correcting an error of Mr. Kenrick. Mr. Elliott states that "the Lydia is not a seedling of Mr. Carpenter's, but a chance seedling, through the hands of Dr. Kelly of Kelly's Island, and afterwards grown by Edward Nord. It was first brought to notice by Mr. Carpenter, and to him belongs so much credit. Permit me to say, and with some hesitation, as I do not like to contradict Mr. Kenrick, that the Michigan is not larger in the bunch than the Catawba, and that but for the fact of its earlier period of ripening, and the want of a thready character from the pulp in eating, it could not be detected from that variety. Its period of maturity, and that want of a stinging character, that is always with the Catawba, are, however, indicative of its distinctness."—F. R. ELLIOTT, Washington, D. C.

WESTERN BEAUTY APPLE.

BY WM. KENRICK, NEWTON, MASS.

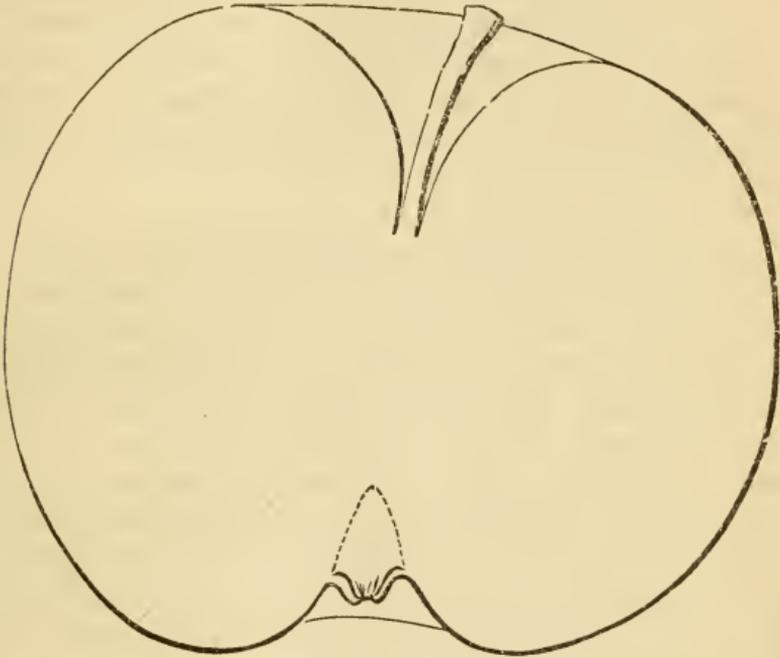
THE Western Beauty, which I exhibited at the Hall of the Massachusetts Horticultural Society in October last, and again in December, I received of William F. English, Esq., of Rhinehart, Anglaise County, Ohio. The description of the

fruit, as given by him below, corresponds with the fruit and leaf, as received by me of him. He states that it keeps with care in Ohio, say in the latitude of 40°–41°, till March. But in the latitude of Boston will probably keep till April. The leaves, as sent, were very large, five to six inches long, and very broad. The tree, and its fruit, as described by Mr. English, is as follows:—"The tree is of very vigorous growth and strong, forming a very large and beautiful head. The young wood is stout, the leaves very large, from five to six inches long, of a rich green. The fruit large, and of uniform size; the surface smooth and regular; form flattened; its transverse diameter greater than its height. Color, varying from a rich green, almost to a red, and striped with red. In a rich limestone soil it is generally beautifully striped with red; in heavy clay but little red. Flesh yellowish, white, tender, juicy, crisp, rich, subacid; a little coarse-grained, yet melting and well-flavored. Unsurpassed for cooking or drying; never mealy, except when frozen. Ripening from September to Christmas; and keeps, with care, till March, retaining its flavor and life. When in its prime we sold it readily in quantities (where it was unknown previously) at 75 cents per bushel, while Bellflower and Rambo were dull at 40 to 50 cents."

In the Gardeners' Monthly, for April, 1861, p. 124, the fruit is miscalled, says Mr. English, and spoken of as the "OHIO BEAUTY." But the true name, as given it by Mr. English, being the WESTERN BEAUTY. The Gardeners' Monthly states, in its Report of the Doings of one of the Horticultural Societies, that Dr. Warder of Cincinnati there read a letter from Mr. English, of Rhinehart, Anglaise County, Ohio, wherein he, Mr. English, says: "One tree of this variety, about 16 years old, charmed and astonished everybody. Almost every approach to the trunk of the tree was cut off by the limbs bending to the ground. Some of the limbs of this tree extended 22 to 24 feet horizontally from the trunk, and yielded 30 bushels of apples. The largest apple we weighed this season weighed a pound. Full as the trees were, 120 to 125 taken on the average, make a bushel. Every day still more and more confirms me in the opinion, that amongst the best apples in cultivation this has no superior."

Mr. English has sent me buds of this tree last year and this, and the leaves as well as fruit, and he remarks in his letter to me, that "to be seen to the greatest possible advantage the fruit should be seen upon the tree."

To this account of Mr. Kenrick we add a description and engraving (FIG. 7) of the apple:—



7. WESTERN BEAUTY.

Size large, about three and a half inches broad, and three deep; form, roundish oblate, broad, and somewhat flattened at the base, full at the crown; skin fair, smooth, with a clear yellow ground, beautifully shaded with bright red in the sun, showing indistinct stripes of a deeper shade, and dotted with whitish specks; stem medium length, about half an inch long, slender, and deeply set in a large broad cavity; eye rather large, closed, and set in a large, open, and pretty deep basin; segments of the calyx long, entire, woolly; flesh yellowish white, crisp and tender; juice abundant, pleasantly acid, and well flavored; core medium size, closed; seeds very large, angular, brown. Ripe from December to March.

WINDOW GARDENING.

BY MRS. ISAAC CLEMENT, MECHANICVILLE, N. Y.

IN the December number of the Magazine, p. 562, it is said "few things are pleasanter in passing along a street than to see a window all filled with blooming flowers." Although our village is somewhat famous for flower gardens, there are but few that grow house plants; there is but one window besides my own, to my knowledge, where flowers are to be seen, and they are both side windows, so that they show but little from the street, so that the "maid" in this case would have to visit the house to see the flowers.

The only *real* trouble I find in growing house plants, is the insects; when they are taken in the house, in the fall, there is always insects enough lurking among the leaves to colonize them in a few weeks, especially the thrips, and aphids; the atmosphere just suits them, and dipping them in whale oil soapsuds, made after the original recipe, has but little effect on them, and smoking them with tobacco in freezing weather is a difficult task, without freezing your plants. I well remember with what gladness I hailed Mr. Haggerston's remedy, and forthwith tried it on some verbenas by dipping them in the liquid in a deep vessel, by inverting them on my hand, and leaving them without rinsing for several hours, to make a sure cure; but what was my regret next morning, when, with spectacles on, I went to examine my plants, to find live aphids; they appeared to be sick at the stomach, or else had turned clown, for they were evidently trying to stand on their heads; but I left them to see if they would get well, which they did, that is the old ones, the young ones being more tender were dead.

I find the best way is to have but few plants, and examine them often, and brush off any insects before they take the life of your plants. There are some kinds that are not so much troubled with any kind of insects, such as *Calla æthiopica*, cactus, of different kinds. Some are fall blooming, others toward spring; *Abutilon venosum*, just coming into bloom; *clianthus*, toward spring; *calampelis*, a vine, in bloom now, showing no signs of insects yet, while many things are infested

that stand at the same window. My calla is nearly 30 years old, and is now opening the second flower since November 1st. The first one measured six inches across the widest place, and eight inches in length; the largest bloom of the kind I ever had. The temperature of a sitting-room is too warm for most plants, but cactus and the calla will bear more ill-usage than any others that bloom in the winter. The first requires but little water, the second a great deal. An upper room, where there is a pipe passing through from a coal stove that is kept from going out at night, is a better place for verbenas, and most kinds of bedding plants, than a sitting room.

We are delighted to know the series of articles on In-Door Gardening have found so zealous a reader as Mrs. Clement, who understands fully the obstacles to success, but yet has so mastered them that a calla *thirty years* old yet graces her window. In truth, successful window gardening is an art which can only be acquired by observation and experience, and it is to those who have attained the knowledge of our fair correspondent that young beginners must look for advice.

Insects are, indeed, a pest anywhere, but especially among house plants. Smoking being so difficult the next best means should be adopted, and this is, or has been, the whale-oil soap mixture, which we have found efficient, if applied twice. The first washing killing the young, but often only stupefying the old ones, while the second, given a little weaker, and before they have time to recover, fully uses them up.

Recently a new article has been recommended. This is the extract of tobacco, which, made into a solution, according to the directions accompanying the article, the plant should be dipped, just as Mrs. Clement has described; one trial with it, for that very ugly insect, the thrip, was so satisfactory that we can recommend it as a very effectual mode of destroying that and that other pest, the aphid. We hope Mrs. Clement will give us more of her valuable experience on growing house plants.—Ed.

Obituary.

DEATH OF DR. WILLIAM D. BRINCKLE.—Died at his residence at Groveville, N. J., on the 16th of December, Dr. W. D. Brinckle, at the age of 64.

In common with the pomological world, we have learned with deep regret of the decease of Dr. Brinckle, our friend and correspondent; and we can offer no fitter tribute to his memory than that delivered before the Massachusetts Horticultural Society, at a late meeting, by his more intimate friend and co-laborer in the cause of pomological science, Col. Wilder:—

“The demise of W. D. Brinckle, M. D., of Groveville, N. J., corresponding member of this Society, so long and favorably known to the public as a pomologist, has already been recorded in some of the public journals; but the death of a man so distinguished in this and other departments of life is worthy of a more extended notice than has yet appeared. Dr. Brinckle's death has made a wide breach in a large circle of friends, and his name and worth will be cherished with grateful remembrance by all who knew him. He was a gentleman endeared to us for his generous and estimable qualities, and possessed large and varied attainments. He was eminent in his profession as a physician, and had also a good knowledge of surgery, mechanics, chemistry, and other sciences. In manners he was peculiarly modest and unpretending, yet cordial and polite. In disposition kind, gentle, unselfish, and confiding. In taste refined, correct, and critical. In life exemplary, conscientious, and faithful.

In pomological science Dr. Brinckle was known throughout our land for his enterprise and research. He was one of the founders and warmest friends of the American Pomological Society. He held the office of President for one term; and has ever been one of the most prominent and useful members of this National Association. For a long time he was intimately connected with the Pennsylvania Horticultural Society, officially and otherwise, and until declining health induced his removal from Philadelphia to the country, he was zealously engaged in the production of new varieties of fruit from seed, and in collecting and bringing to notice good native sorts that had been overlooked by others. Many of the results of Dr. Brinckle's labors are already widely dispensed, but it is anticipated that many more, of a favorable character, may in time be forthcoming from the grounds of Groveville and Wilmington. Here are the trees and plants produced by his own hands from seed, and here are also other treasures, which he had collected from the different sections of our country.

Few have taken so deep an interest in pomology, and few have done so much to advance fruit culture in our land. In his death the country has lost another of the standard bearers of American pomology. His name will, therefore, ever be held in grateful remembrance, and his memory will be cherished as a public benefactor.

He had many friends, but no enemies.”

Massachusetts Horticultural Society.

Saturday, January 3, 1863.—The stated quarterly meeting of the Society was held to-day.

Hon. Joseph Breck, the retiring President, called the meeting to order, and delivered his valedictory, at the conclusion of which he introduced his successor, Mr. C. M. Hovey, who, on taking the chair, addressed the Society as follows:—

GENTLEMEN OF THE MASSACHUSETTS HORTICULTURAL SOCIETY:—In taking the chair to preside over your deliberations, I do so with a full sense of the duties and responsibilities of the office, filled as it has been by so many eminent men, and especially by the excellent and worthy President who now retires from the position he has occupied so honorably for four years. I had felt that the honor you had conferred upon me in electing me your President, was in a great part due to my long and active connection with the Society—extending back to the period of its organization in 1829, and the deep interest I had taken in its proceedings, rather than to any especial merits of my own, and therefore, calculated upon your indulgence in the discharge of my official duties. But your kind President has passed such an eulogium on my humble labors, that I fear you will expect more than I am able to perform, and that I may fail to meet your anticipations. Permit me to say, however, that if a lifelong interest in the science of Horticulture,—an enthusiastic devotion to its study and practice, and an abiding faith in the mission of the Society, are any of the qualities which fit me for the office, I shall endeavor to deserve, as I hope to secure, your cordial approbation and support.

I deem the custom, now become so well established, of opening the year with a brief address from your President, a most happy one. It brings him in closer communication with the members—allows him to foreshadow his views, and gives him the opportunity to offer suggestions that may appear to him best calculated to extend its influence. To me it is a pleasure to perform this duty, and I trust it may enable us to act in greater concert, that the present usefulness and future welfare of the Society may be promoted.

But I am fearful that what I may now say will lose much of its interest, after the excellent address of your retiring President, who has brought to the work, the same thoroughness which he brings to everything that comes from his head or hands. He has recounted the doings, not only during his own term of office, so prosperous and useful, but he has gone further and recalled to our minds much that transpired before. Fortunate for me, is it, that what he has said has been mainly retrospective rather than prospective, and referring you to his remarks for that which is past in our history, I shall speak of that which is before us.

First then, gentlemen, let me speak of what I consider the great and paramount work of the Society. The original Act of Incorporation was for the "purpose of encouraging and improving the science and practice of horticulture, and promoting the amelioration of the various species of trees, plants, fruits, and vegetables." These are the very words of the act. Thus it will be seen we have a distinct work to do. There may be different views as to the mode of accomplishing all this, but the act is explicit. This, indeed, has been our object, and I only allude to it that we may keep in view the great purpose, which sometimes I have thought was nearly overlooked.

It appears to me, that in no way can so much be achieved as by **JUDICIOUS** and **LIBERAL PREMIUMS**, to be awarded for meritorious objects. A record of the amount the Society has distributed in prizes would be interesting; without going back too far, it may be set down at about two thousand dollars a year for the last ten years, amounting in the aggregate to twenty thousand dollars. This is a liberal sum, and no one, I think, can doubt the immense advantages that have resulted from the outlay.

To what do we owe the present condition of horticulture more than to the system of the distribution of prizes? In fact, if we study the matter, we shall find that the high state of plant culture and fruit growing, and the introduction of new varieties, are all due to the laudable desire to excel—to possess something superior to others—certainly an honorable object. Skill in cultivation being attainable by all, superiority comes from a new development of the cultivator's skill. Hence we owe everything to the system which has brought out so much beauty and so much excellence; and this brings me to the first suggestion I wish to make, viz.: that the premiums for new seedling flowers, plants, and fruits, which were struck from the list a few years since, should be restored. But for the offer of those prizes, the Jenny Lind strawberry, Dana's Hovey, and Clapp's Favorite pears, the Concord grape, and other fruits, as well as many superb flowers, might never have enriched our gardens. We have beautiful medals to offer, and I know of no way in which we can so well perpetuate the memory of those who so liberally endowed us, as in the distribution of the medals that bear their name.

In the progress of a Society like ours, it seems to me alterations should, from time to time be made, in our list of premiums. I have made some suggestions to the fruit committee, which I am happy to say, have had the hearty approbation of the excellent chairman, who has so long, laboriously, and honorably served you in that capacity, and whose annual reports are an honor, equally to himself and the Society. I hope similar alterations may be made in the other Committees, in order to bring them up to our condition and present wants.

One subject, I think, has escaped the attention of our Society. I refer to trees and shrubs, which not being especial objects of exhibition, like flowers, have not been sufficiently encouraged. As these, however, enter extensively into the arrangement of our gardens and grounds, it is very

important they should receive more attention; especially should the introduction of seedlings or new varieties be rewarded by gratuities or premiums. The Azalea and Rhododendron, two of our most magnificent hardy shrubs, have no more encouragement than the humblest garden flower. I hope another year, at least, that this subject will not be overlooked.

The Garden Committee does not seem to have accomplished much the last few years, and it has been suggested whether the appropriation might not be discontinued for a time. This cannot be done without an alteration of the By-laws, and I do not recommend such a movement. I merely mention it that measures may be taken to make it more effective.

The President, in his address, has shown you that our Annual Exhibitions have sometimes resulted in considerable loss. This we know has been the case, and we have tried to obviate it by holding our exhibitions, in our own room. It appears, however, that the result has been nearly the same. Our expenses were small—our receipts much smaller—and we have not felt satisfied that either of the exhibitions reflected much credit upon the Society. It appears, to me, far preferable to make an exhibition honorable alike to ourselves and the state of public taste, even if it results in some loss; for the time will come when our exhibitions will be appreciated and sustained. The Royal Horticultural Society of London depends upon its resources from its exhibitions to defray many of its expenses; yet at one period, not long ago, it lost money as we have done.

The President has relieved me of the necessity of saying much in reference to the financial condition of the Society. Its flourishing state must be gratifying to all of us. The Report of the Finance Committee will acquaint you with the details.

And now, gentlemen, I come to a subject of more than ordinary interest, one which has long occupied my attention, and I doubt not that of other members. This is the possession of a Home,—of a building we can call our own. Until that takes place I cannot believe a deep and permanent interest will be felt in our behalf. "Horticultural Hall" in former years was a household word. We were then an institution; now only a Society. The taste and fashion of the city flocked to see us, and our exhibitions were attended by thousands of admiring visitors. So long as we continue as we now are we shall fail to secure the sympathies of the people.

Your President has alluded to the labors of the Committee appointed to purchase a site for a new building, who have selected a most central one, possessing in an eminent degree all the conveniences we could require, and as a report will come before you for your consideration, I shall not occupy your time in reference thereto; but I wish to record my sincere hope that such a favorable opportunity may not be allowed to pass, and that the exertions now making will succeed. Your Committee contains among its members, gentlemen of great financial ability, who seek nothing but the permanent interests of the Society—gentlemen, too, who foresee

its future greatness and rank. I trust their good judgment will meet your approbation, and that they will be supported in their endeavors to place the Society in the position its condition, its wants, and its resources demand.

To accomplish this, however, I must urge you to make no needless expenditures, but to husband all our means beyond our actual wants. Our premiums—the life of the Society—should be liberal, but other expenditures guarded. The Library, already large, should have every popular work added to it; but beyond that we should not go. We do not wish to bury beneath its shelves the ponderous tomes and elaborate works valuable only to the student.

GENTLEMEN,—

We meet together under more cheering auspices than at the incoming of the past year. Yet we cannot but deplore the cruel warfare that still goes on, saddening many homes and devastating lands; causing thousands of sorrowing hearts and tasking the energies and resources of the country. May the reward be equal to the sacrifice, and its end be a peace which shall bring renewed energy to every branch of industry, and fill our land with homes where flowers shall bloom, and trees shall be laden with delicious fruits.

In conclusion, let me hope that harmonious action will be the guiding principle in all our duties. Let honorable competition cement, rather than weaken our ties. We come together weekly or monthly to exhibit our beautiful flowers and handsome fruits—to show to each other the results of our skill and care. May all these meetings be characterized by such unity of feeling and good will, that our declining years may be solaced by the happy recollections of the past.

On motion of Dr. Wight it was voted that the retiring President, Joseph Breck, and his successor, C. M. Hovey, be requested to furnish copies of their Addresses for publication.

The following gentlemen were chosen a Committee of Arrangements for the next Annual Exhibition:—P. B. Hovey, J. S. Cabot, J. F. C. Hyde, E. A. Story, D. T. Curtis, E. S. Rand, Jr., W. C. Strong, W. J. Underwood, A. C. Bowditch, C. H. B. Breck, P. Barnes, F. L. Winship, and R. M'Cleary Copeland.

Horticultural Operations

FOR FEBRUARY.

FRUIT DEPARTMENT.

THE month of January has been unusually mild, without any snow, and with occasional rains, and the ground at the present time is nearly free

from frost. So mild a January we do not think has been known for some years.

GRAPE VINES, in the early houses, will now be swelling their fruit rapidly, and under the late mild weather will have made a healthy and vigorous growth. As cooler weather may be anticipated this month care should be taken that the vines receive no sudden check. Air freely in good weather, and with heavy fires distribute water freely to maintain a genial atmosphere. Vines in the grapery, or greenhouse, will now begin to swell their buds, and should have an occasional syringing. When all the buds are well started tie up to the trellis carefully. Cuttings may be put in now, and young vines repotted, and started into growth.

GRAPE VINES, in pots, may be brought into the greenhouse, or grapery, for a successional crop.

PEACHES, in pots, now introduced from the cellar, or orchard-house, will ripen their fruit in June. Trees, already in bloom, or with their fruit well set, should have plenty of air.

STRAWBERRIES, in pots, should have a warm shelf, very near the glass. Water carefully, till the fruit is well set.

ORCHARD-HOUSES should have abundant ventilation in mild weather, guarding against sudden cold, with a covering of mats or straw. After the late mild weather the trees will be easily excited.

SCIONS of fruit trees may be cut this month, placing them away in sand or moss, in a cool cellar.

PRUNING may now be commenced, where there is a great deal to be done, as it will save valuable time late in the season.

FLOWER DEPARTMENT.

The weather, though mild, has been rather cloudy, and plants have maintained a vigorous growth, though their blooming has been retarded; with the increasing light they will soon begin to display their flowers in abundance. Now is the time to push on all propagation, and by the aid of hot-beds and cold frames the whole stock of bedding plants should be well established by the early part of April.

PELARGONIUMS now begin to assume the stocky growth which is necessary to insure a successful bloom. All the plants should now be tied out carefully, and superfluous shoots thinned out. Give them abundance of room, and turn them round at least once a week, that the foliage may have the full advantage of sun and air. Water sparingly, until the roots have taken well hold of the new soil. Young stock may be repotted at once.

AZALEAS will begin to display their flowers. Such as are coming into bloom should be more freely watered, and occasionally syringed. Plants for late blooming in May should be kept rather dry, and very cool, or they will be likely to push into flower. Tie them into shape in good season. Fumigate freely, if troubled with the black thrip.

CAMELLIAS will now be blooming freely, and should be more liberally watered.

CINERARIAS, for late flowering, should now be shifted into their blooming pots, and have a cool place, near the glass. Look out for the green fly, and fumigate often.

SEEDS should be planted—such as Petunias, Verbenas, Chinese Primrose, Dianthus Heddewigii, &c.

MONTHLY CARNATIONS, growing rapidly, and coming into full bloom, may have a shift into slightly larger pots.

HELIOTROPES may be repotted.

SCARLET, and other Bedding Geraniums, already propagated, should be potted off, and have a cool place, near the glass.

GLOXINIAS AND ACHIMENES should be potted and started into growth in the warmest part of the house.

RHODODENDRON seeds may now be planted in boxes, in the greenhouse.

FERNS will now begin to grow, and may be shaken out the old soil and repotted.

LANTANAS, now repotted, will soon be in full bloom; stock for bedding out should now be propagated.

LILIUM GIGANTEUM, in pots, should now be more freely watered, and kept in active growth.

ORANGE TREES, now beginning to flower, should be more liberally watered.

NEAPOLITAN VIOLETS, brought into the house from frames, will bloom abundantly.

FUCHSIAS should be shaken out of the old soil, repotted, and headed in. Keep in a warm place, well syringed, and they will break freely.

CACTUSES should be more freely watered.

VEGETABLE DEPARTMENT.

Hotbeds should now be made ready for raising all kinds of early vegetables. Gather the manure into a good heap, and when it begins to heat, turn it over, shaking it well up. In a few days it will be ready to make the bed. Mark out the ground of the proper size for the frame, which should be a foot wider all round. Then throw on the manure, making it firm, and at the height of three feet level off and place on the frame, covering with the lights. Give air for a day or two, till the rank heat has passed off, when it will be ready for the soil, which may be three to six inches deep. Cover the lights with straw mats at night, and in a day or two it will be ready for use. Regulate the heat by the admission of air, by tilting the lights on the back.

Sow seeds of tomatoes, cucumbers, melons, &c., in pots, and lettuce, radishes, cabbage, &c., in rows, in the soil, or in boxes or pots. By the end of the month they will be ready to remove into new beds, which should be got ready in time.

SEEDLING PLUMS.

IN our last number, we alluded to the communication of Mr. Rivers upon Seedling Plums as being more interesting than that which we have already given—meaning by this, that in the extensive character of his experiments and the slight results obtained, there was a remarkable discrepancy between his labors with this fruit and the labors of our American cultivators during the same or a much shorter period; the latter having found great variation in the seedlings, as our Catalogues of American plums will show. Hence the interest with which the subject is invested, and the desire to ascertain if possible—though not probable—from whence this great difference has arisen.

It would appear, from what Mr. Rivers states, that he has produced more seedlings of the plum than of any other fruit, apparently from the experiment of his boyhood, which resulted in his producing two seedlings from the old *Précoce de Tours*. But whether from this cause or any other, during a period of forty years, he has raised an immense number of plums, no less than 80,000 at one time, and so far as we can learn from his excellent article, with very limited success, the end being the accession of only three or four varieties of any merit.

Let us compare this entire period of nearly half a century, and the great number of trees, with what American cultivators have done, and as we have not the data to make even an approximate guess at the thousands of trees that have been raised, we will first take the experiments of one cultivator, the late Wm. Prince of Flushing, L. I., and contrast what he accomplished with the labors of Mr. Rivers—not for the purpose, by any means, of disparaging the efforts or taking aught from the well-earned reputation of Mr. Rivers, but as showing that there is something either in our climate or beyond our present knowledge, which has led to such grand results.

Mr. Rivers says, that twenty years (1831) since, he sowed twenty bushels of over-ripe Green Gages, and watched the progeny carefully "to see if he could detect any deviation in the leaves or shoots so as to be able to select a few subjects to plant out till they bore fruit, and thus possibly give me some new variety, but not one could I find; all had the smooth shoots, prominent buds, and the glossy leaves of the Green Gage, the greater number with smaller leaves and thorny shoots. And so I allowed them all to be grafted with other kinds." This is Mr. Rivers's account of a single sowing of the Green Gage, which he notices as a "fact seeming as if they would become, in a few generations, wild green plums, &c."

We now give the experiment of the elder Prince, as related in the Pomological Manual by W. R. Prince, in 1831: "About the year 1790, his father planted the stones of 25 quarts (not quite a bushel) of the Green Gage plum; they produced trees which yielded fruit of *every color*, and the Red Gage, White Gage, Prince's Imperial Gage, Prince's Green Gage, and Prince's Yellow Gage, now so well known and highly esteemed, formed part of the progeny of the seeds then sown." This does not look like a return to the wild green plum. In wood, leaf, habit and fruit, they are entirely unlike the parent and show a great variation from it. Perhaps Mr. Rivers judged too hastily, and if his trees had been allowed to bear, they might have borne distinct, as well as good fruits. But the other experiments of Mr. Rivers, with other sorts, when they did bear gave similar results.

Dating from the period named by Mr. Rivers, what are the results of the combined labors of American cultivators? At that period we had but six or eight American varieties, except those above noted. Mr. Prince, in the work quoted, which was very complete, enumerated only six. But Downing in his last edition, 1860, describes *forty* of good repute, besides many others. These have come from a wide extent of territory, from Maine to Pennsylvania, and embrace among them fruits equal to the Green Gage, and several of them of a size unknown to foreign plums of equal merit. In looking up the history of a few of them, we find their origin various,

but all showing a great change in this fruit in our climate. Lawrence's Favorite was raised from the Green Gage, which Downing says, is two or three times as large, though we think this was a slip of the pen. Schuyler Gage raised from Green Gage; Cooper's Large Red (called Smith's Orleans) from the Orleans; Domine Dull and Bleeker's Gage, were raised from one lot of stones received from "Faderland." Many of our most remarkable plums have no known origin, such as the McLaughlin, Jefferson, Gen. Hand, Schenectady Catherine, Ives's Seedling, Bradshaw, Albany Beauty, Columbia, Washington, Madison, Denniston's Superb, &c. &c. Some of these were accidental trees, while others we presume were selected from a multitude of young seedlings, though we doubt whether all of them were gathered out of so large a number as 80,000 plants.

Thus, in about thirty years, since Mr. Rivers's first seedlings bore fruit, more than thirty five kinds of plums have been originated in American collections, and several of them sent to Great Britain, where they have been considered great acquisitions; and one of them, the Jefferson, has been chosen by Mr. Rivers as the parent of a new stock, which has already produced seedlings, "varying to a great extent in the foliage and habit," and promising fruit the present year. Thus we see that the variation which we claim for our native sorts does not stop even when transferred to the same climate where the Green Gage remains without change, a fact tending apparently to destroy the theory that this variation is due to our climate, and yet confirming the well-known fact as established by observation, and admitted by Mr. Rivers, that when variation once begins, "the seedlings of the second generation vary to a great extent."

We bring forward all these facts for the consideration of our pomologists. That seedlings do exhibit a marked variation in our climate, greater than in Great Britain, we think has been satisfactorily shown. The cause we have suggested, though it is a suggestion merely, and we invite our cultivators to give the question a full examination; perhaps it may be that in our dryer atmosphere, and under our clearer skies, the pollen at the time of blooming is set free and distributed

more extensively than in the damper climate of Great Britain, that fertilization takes place on an extensive scale, when in the other case it is confined to the individual tree. Whether this is so or not, the fact still exists, that American plums have departed widely from the parents, and that this variation is continued in the offspring, both at home and abroad.

Offering these few facts on a subject of great interest, we invite attention to Mr. Rivers's experiment with plums:—

It must be nearly forty years since, that five gigantic plum trees of the old but very excellent early plum, the *Précoce de Tours*, planted by my grandfather about 1780, were in a flourishing state; they used to bear a full crop about once in five years, and at other times only what was called a "sprinkling." When this sprinkling was too insignificant to be worth gathering for market, we boys, my brother, and myself, made it a point to appropriate the greater share, and most delicious we thought them. By some peculiar but rather unboyish instinct I was induced to plant some stones of this my favorite plum, and in due time some young trees made their appearance. It was some ten years or so before they bore any fruit, for they were looked upon by my elders as wild trees, and planted in a shady corner; at last two of them bore good crops, and as I was then of an age to take some interest in new fruits, I was much pleased to find them valuable sorts, one earlier than its parent, the other as early; but so hardy that it bore annually a full crop, in spite of spring frosts, generally so fatal to the blossoms of plum trees.

For some few years I distinguished the first-named as No. 1, the second as No. 2, and in process of time I acquired confidence enough to name them, No. 1, the *Early Favorite*, No. 2 as the *Early Prolific*; such are the names they now bear in most fruit-tree catalogues. The last named variety still maintains its character, and bears here so profusely that last season a plantation of about 500 trees gave some hundreds of "sievés" of plums, which were sent to Covent Garden the end of July; the trees were purple with their loads of fruit.

I have been rather diffuse in my account of these my first seedling plums, because their offspring have led to a train of reasoning on the tendency of seedling fruits to return to the normal condition of their species. I have mentioned that very late pears are inclined to produce sorts ripening in autumn, which is undoubtedly the season that pears in their natural state ripen in. Well, I have raised seedlings from the Early Favorite plum and the same from the Early Prolific, hoping to originate sorts still earlier, so as to have plums ripening in June. Nature, however, seems to have stepped in, and my seedlings, from both kinds, have ripened from a fortnight to a month later than the parent sorts, and are mostly of inferior quality, although undoubtedly of the same race, being more like wild plums than sorts of a good parentage; wild plums ripen in September, and my seedlings from seedlings of an early plum seem to me to be endeavoring to approach to a state of nature. It is still to be ascertained if seedlings from these half-wild plums will return to the excellence of the first generation, and I hope to live to ascertain the fact.

I have omitted to say that the first seedlings raised from perhaps one of the oldest varieties of plums known, the *Précoce de Tours*, viz. Early Favorite and Early Prolific, partake largely of the nature of their parent in color, in size, and flavor, thus showing that seedlings raised from varieties of fruits long domesticated do not depart at once from the parental character; this will account for the want of success in that old and truthful pomologist Duhamel, in raising new kinds of pears from the good old kinds, which he tell us he essayed to do during a portion of his life. In support of this idea I may mention that some twenty years since, before railways were in full activity, to take off what the market gardeners call a "glut" of fruit from Covent Garden, I bought in this market twenty bushels of over-ripe and half rotten Green Gage plums at 1s. 6d. per bushel; the stones of these were sown, and produced some thousands of trees, which were planted out and employed as stocks to graft plums on. I watched them very narrowly to discover some deviation in leaves or in shoots, so as to be able to select

a few likely subjects to plant out till they bore fruit, and thus possibly give me some new variety, but not one could I find; all had the smooth shoots, prominent buds and the glossy leaves of the Green Gage, the greater number with smaller leaves and thorny shoots; and so I allowed them all to be grafted with other kinds. I have at this moment seedling Green Gage plums with the same undeviating habit, the tendency being to give small leaves and thorny shoots—in fact seeming as if they would (if left to reproduce themselves without the care of man) become, in a few generations, wild green plums, probably the normal state of this sort. A few years since I procured from the Horticultural Gardens at Chiswick, the “Cabul Green Gage.” I was deeply interested with it, for from its wild-looking habit and from its far eastern name, I at once concluded that at last I had got the Green Gage in its normal state, thus at once solving the secret of its origin, for to the East we look for the origin of nearly all our necessaries and luxuries pertaining to the vegetable world. I regret much to say, that this to me most interesting plum has disappointed me,—it bore fruit two years since in my orchard-house, and proved to be a Cherry plum, a variety of the Mirobalan, with red fruit of a larger size than the common Cherry plum. The habit of the tree is most remarkably vigorous, it making shoots in one season from seven to eight feet in length. A few years since I raised two or three seedlings from the Peach plum (Prune Pêche); one of these bore fruit in 1859, which ripened June 30th, thus proving the earliest plum known, but as the tree was in a pot, and stood in a warm place in front of a wall, I do not think it will in future ripen so early. This sort is a remarkable deviation from its parent, which is a large round and remarkably handsome red plum, very sweet without any piquancy, ripening in August; the seedling is oval, smaller than its parent, and of a very brisk flavor; its habit is widely different, for its shoots are so slender as almost to be pendulous, whereas those of the parent are stout and robust.

There are two races of damsons, one with downy shoots, peculiar to the north-west of England, and called the Prune or Shropshire damson; the other with smooth shoots, called

the Common damson, which is the sort grown largely in Kent and other parts of the south of England. They would perhaps be considered by the older botanists as varieties of a species, so little do they deviate, as far as my experience has gone, when seedlings are raised from them. My experiment was with the last-named sort, and now dates some thirty or nearly forty years since. Damsons were then scarce in the nurseries, and the stones of some bushels were sown here to produce trees for sale; they grew slowly, and were many years before they had fruit. Their adherence to the parental type was then most interesting, for they were all damsons with smooth shoots, but some bore oval fruit, some round or roundish, and a few with small fruit approaching very nearly in appearance to sloes, but they were sweet, and their shoots were smooth instead of being downy like those of the common sloe. I then thought, and am still inclined to think, that our damsons owe their origin to the sloe, and that after a few thousands of years, if left to a state of nature, they, in common with all our fine varieties of domesticated fruits, would return to their normal state, and that Green Gages would be like Bullaces, Ribston Pippins like Crabs, and peaches thick-fleshed almonds; for I have one or two seedling peaches approaching very nearly to that state.

Bullaces and White damsons reproduce themselves from seed with but little variation. Some from the former, however, a recent generation, the trees now three years old, are of interest, for one among them with a close pyramidal habit has broad leaves and looks hopeful.

Coe's Golden Drop, which, compared with the Green Gage, is a new kind, has produced here a round plum like an Orleans, and not a late plum like its parent, for it ripens about the end of August; its quality rich and good, but although it has been in existence some twenty years, it has not been honored with a name. This comparatively early plum, from one of our latest varieties, is of much interest, and tends to support my train of thought relative to seedling pears in a previous paper.

The Jefferson plum, which, compared to the Green Gage, is a new variety, has produced here seedlings varying to a

great extent in their foliage and habit. As they promise to bear next season, the variation or non variation of their fruit will soon be ascertained.

The Reine Claude de Bavay, a new and late variety of the Green Gage, has produced seedlings giving great hopes, for they have departed widely in habit from their parent, as have seedlings from Guthrie's Late Green, another variety of the Green Gage. It would seem, therefore, that as soon as a deviation from an old race of domesticated fruits takes place, either by accidental or artificial fertilization of the flowers, the seedlings of the second generation vary to a great extent. Seedlings from that very old sort, the Orleans, have the downy shoots and habit of the parent, and more remarkable than any fact I have related as to seedlings from old varieties being inclined to retain the habits of their parent, is that amongst about 80,000 seedlings raised from forty bushels of stones of the oval purple plum, known all over Germany as the Quetsche plum, which is exported thence so largely, and which forms so important an article of food in some districts, (who can forget the anecdote in the "Bubbles," of the lean breeches-maker's dinner—a basin of plums and a piece of bread?) not one could be found varying in the least in foliage and habit. These seedlings were growing vigorously last summer, the stones having been sown the previous February, but every plant had the same rugose pointed leaves as the parent, and I looked in vain for some deviation. The Quetsche is undoubtedly one of our very oldest varieties, and seems, like the Green Gage, to have acquired under many years of cultivation the settled habits of a race. There are, it is true, several varieties of Quetsche plums known in Germany, some yellow, some greenish, some a little earlier than the common sort, but they are all of the same habit and same race.

I may also report the same fact with regard to the Petite Mirabelle, so largely grown in France, and so long known there; I have searched among some thousands of seedlings raised from stones imported from France for the purpose of raising young stocks, to make the plum and the peach dwarf in growth, in the same way as the Paradise stock dwarfs the

apple, but I have searched in vain for any deviation; the same small leaves, downy shoots, and dwarf habit, are prominent in all. This old French kind has, however, like the German Quetsche, diverged slightly, for there are early and late Mirabelles, the former quite a little jewel of a plum, as it ripens in July, and is very rich, the latter ripening in October; and there is also the Mirabelle de Nancy and one or two others—still they are all Mirabelles, and retain the prominent characters of the race.

The Saint Catherine plum, a very old variety, grown largely in the warmer parts of France for drying, reproduces itself from seed without the slightest variation in habit, so that one would think it a species.

I have been led into a lengthy notice of the adherence to race in seedlings raised from our very old varieties of plums, because it may prove interesting to physiologists, and lead to agreeable and interesting speculations and deductions—in fact to matters that one like myself may think and talk about, but fear to commit to print.

It must be recollected that I have narrated the effect of raising seedling plums without any attempt at fertilizing the flowers; by this process the gardener can make Green Gage plums produce from their seed, varieties of all hues and forms. Before I conclude this, I almost fear too long an article, on one species of fruit, I feel that I ought to mention a remarkable variation in a plum and not from seed, but from what gardeners call a “sport.”

In the plantation of Early Prolific plums, referred to above, one tree, about three years ago, produced plums of a bright yellow, and has continued to do so ever since; these ripen at the same time as their purple brethren, are of the same shape and flavor, and the shoots and leaves of the tree are exactly like those of the Early Prolific. It is unlike any other yellow plum known.

It will be noted that the production of seedling plums by Messrs. Prince dates long prior to any experiments by Mr. Knight or other English cultivators, and American pomologists owe them a debt of gratitude for their labors.—ED.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

AN ACCOUNT OF THE MANAGEMENT OF AQUATIC PLANTS. BY WM. KENT, ESQ., DEC. 1817.

THE plants chiefly noticed in this paper are those included in the genera of *Menyanthes*, *Nymphæa*, *Nuphar*, *Euryale* and *Nelumbium*. Of the first genus seven species were then cultivated in England, but all except the *trifoliata* have since received the generic name of *Villarsia*. The *M. trifoliata* is a British species, but it is also common in the vicinity of Boston, whether naturalized or indigenous, growing in bogs and moist places, with a trifoliate leaf, and bearing in April and May, a beautiful spike of white fringed flowers, having a superficial resemblance to the flowers of the horse-chestnut.

The *Menyanthes nymphoides* is also a British plant, growing in ponds, spreading over them in every direction, and bearing yellow flowers at the end of the runners, with a cordate leaf similar to the *Nymphæa*. The foreign species are not hardy; but admit easily of that amount of protection which is required.

Of the *Nymphæas*, twelve species are described:—

The *Nymphæa alba* is a native of Britain, growing in ponds and streams, with large heart-shaped floating leaves, and beautiful white flowers, with numerous petals, lying upon the surface of the water, and flowering through the summer.

The *N. odorata* from North America resembles the *N. alba*, differing from it chiefly in having scented flowers; it has also smaller leaves and flowers.

N. odorata var minor seems to be only a variety of the preceding, being smaller in all respects.

N. nitida is a native of Siberia, and is said to differ from the *odorata* chiefly in the form of the root, which grows perpendicularly, while that of *N. odorata* grows horizontally.

N. pygmæa is a native of China. The flowers, which are of a delicate white, seldom exceed two inches in length.

Leaves are heart-shaped and lobed, and the flowers are produced nearly through the year on the surface of the water.

N. lotus is a native of Egypt, growing also at the Hot Wells in Hungary. The other species are mostly from the East Indies, and are including *N. lotus*, tender, requiring the protection of artificial heat. These are *N. pubescens*, or *Indian Lotus*; *N. rubra*, with flowers of a bright crimson; *N. rosea*, resembling the preceding; *N. versicolor*; *N. carulea*, from the Cape of Good Hope; perhaps the most desirable of the whole genus, being more easily cultivated than the other tender species; and bearing several flowers at a time, of a fine sky-blue color, very fragrant, and continuing a great length of time. *N. stellata* is also blue and a variety of the last. It is worthy of notice that the flowers of those which are hardy float on the water; while those of the tender ones are elevated several inches above it.

Of the *Nuphars*, four species are described; the *N. lutea*, and *N. minima*, both British species, and *N. Kalmiana* and *N. advena*, which are North American species. All these are perfectly hardy and their flowers are yellow.

The *Euryale* consists only of one species, the *E. feron*. It is a native of the East Indies, and an annual; chiefly interesting from the magnitude and structure of the leaves, sometimes 30 inches in diameter. Two *Nelumbiums* are described; the *N. speciosum*, from the East Indies; and the *N. luteum* from the Southern States of North America.

The hardy *Menyanthes*, *Nymphæas*, and all the *Nuphars* require but little attention, except a regulation of the depth of water. They may be propagated by dividing the roots, with the exception of *Nymphæa nitida*, which forms no eyes, and must be raised from the seeds, and these must be sown in the water as soon as they are ripe. This appears essential, to obtain seedlings, with all the *Nymphæas*, and *Nuphars*.

For the purpose of growing these and other hardy aquatics, Mr. Kent had a small brick pond, 4 feet 6 inches deep in the centre; round which was a shelf 2 feet wide, and 18 inches from the surface. In the centre were boxes standing, filled with mould, for the larger species; and on the shelf he placed the smaller ones, in pots of various sizes. Besides the

pond he had a large cistern, 2 feet deep, formed by divisions into compartments, from one to two feet square, which were partly filled with mould, to different heights, according to the nature and habits of the plants. Every spring the mould in the boxes, pots and cistern was changed, and when the roots had filled any of them they were divided. A strong, rich loam in general agrees best with all this tribe of plants.

The tender *Nymphæas*, also the *Euryale feron* were found to thrive best in a close heat. In order to prepare the *Nymphæas*, the pots, in which they have been kept through the winter, were placed, early in April, in small wooden cisterns, 2 feet long, 14 inches wide and 6 inches deep; and removed from the stove into any melon frames which might be in use. In about three weeks a number of offsets or runners will be thrown out from the bulbs. These are then separated, and put into small pots; and in the course of ten or twelve days a strong plant of each species must be selected, and placed in the cisterns for flowering.

The tender aquatics, especially the *Nymphæas*, were grown in a brick three-light frame, 13 feet long, and 6 feet broad; inside depth, at back, 5 feet, and above ground, 4 feet; which was filled with tan. He had four wooden cisterns, lined with lead, 4 feet long, 2 feet 6 inches wide, and 15 inches deep; these were plunged in the tan, and filled with strong, rich loam, about 6 inches deep, the bottom part of which is rammed down; and the plants placed in them, one or two in each. The cisterns are then filled with water, by degrees. As the plants advance in size, they must be replenished, and cleared from *confervæ*, as often as necessary. The plants must be occasionally watered, over their leaves from a watering pot. It is important to keep them in a constant state of growth; for if checked, they will form bulbs, and grow no more during the season. This effect may be produced by too much heat as well as by cold.

After being planted out, they will show flowers in the course of a month, and some will continue blooming through the season. As soon as the plants have done flowering, and perfected their seeds, they disappear, and form bulbs in the mud. These, in the month of October, Mr. Kent put into

small pots, and placed them in a trough of water, in the stove, where they remained dormant till spring. The seeds are most likely to vegetate, if sown at the same time and treated in the same manner.

The *Nelumbium* is easily raised from seed, which will retain its vegetative power for 40 years, and then with every advantage in a fair season, produce blossoms the first summer. It is generally grown in large tubs, with a few inches depth of water over the surface of the mould, placed in the tan-bed of the stove. The roots, which are kept nearly dry in hothouses have also become vigorous plants.

ON THE PRUNING, &C., OF TRANSPLANTED STANDARD TREES. BY
T. A. KNIGHT. JUNE, 1818.

When a tree is transplanted, it loses almost necessarily, a considerable part of its roots; and as these, in every healthy subject, are nicely proportioned to the branches, the advantages of retrenching the latter are obvious, and well known to every gardener. But relatively to the mode of retrenching the branches, and the extent of retrenchment that is beneficial, there is much discordance of opinion, especially between gardeners and their employers; the latter wishing to preserve the bearing branches, that he may, at an early period, obtain a crop of fruit; and the gardener wishing to head down the tree, that he may see it shoot with vigor.

Mr. Knight thinks neither mode of practice is, in its full extent, quite eligible, in the greater number of cases; the one being too prejudicial to the growth of the tree, by causing the premature production of useless blossoms; and the other being, even when most successful, attended with an unnecessary loss of time. He found, from extensive experience, that transplanted trees generally succeed permanently best, and as standards take the best forms, when their lateral branches instead of being suffered to retain their whole length, or pruned off closely, are all shortened to the length of a few inches, and the top of the tree reduced to a single annual shoot. Under these circumstances the leaves become dispersed upon the stem, so as to afford nutriment to the bark of different parts of it; and the power of the wind to

prevent the tree from re-establishing itself is small (owing to the situation of the leaves) compared with the extent of foliage, which the tree exposes to the light.

The trees under this mode of treatment, also bear as much fruit as they are capable of feeding, as soon as under any other; and within three or four years, their branches generally become more widely extended than those of similar trees which are planted without being pruned. The same mode of pruning is equally well adapted to fruit and forest trees.

The great error of practice, Mr. Knight says, in his day, was that of suffering, when the trees are not headed down, many small branches to form the summit of the transplanted tree. These branches expend its sap in the production of tufts of leaves, where, owing to their distance from the roots, they operate least beneficially in the performance of their proper office, and most injuriously by being most exposed to the influence of winds.

Whenever the roots of transplanted trees have been very much injured, or have been very long out of the ground, the number as well as the extent of the lateral branches should be reduced; and not more than a few inches of the leading annual shoot should be suffered to remain. But in all cases where trees are to be sent a great distance, this retrenchment of their branches should be made in the nursery from which they are to be removed; and if it be properly executed, trees may be conveyed to great distances, under very disadvantageous circumstances, without endangering life, if subsequently well managed.

He relates his experience with some apple-trees from America, which were forwarded to him from London by a wrong wagon, and consequently did not arrive till near the middle of April, and many weeks after the time when he ought to have received them. The whole of them appeared perfectly lifeless and dry, and much better fitted for firewood than for planting; and he did not expect to recover a single plant. But the American nursery men had pruned the trees much in the way he wished (obviously for convenience in packing them) and he had, therefore, little more to do in pruning

them, than to take away such branches as were broken and wholly dead. The trees, which were about four feet high, were then planted in a situation where they were perfectly screened from the morning sun, and just as much water was given as was sufficient to close the mould about the roots. Their stems were then sprinkled with water, by an engine, sufficiently to wet the bark; and this was repeated at six o'clock every morning through the months of May, June and July; but no water was given immediately to the roots, previous experience having led to the belief, that excess of moisture in such cases, is generally injurious and often fatal.

About midsummer a few of the trees began to exhibit some feeble symptoms of life; several afterwards shot vigorously, some to the length of eighteen inches; and out of sixty-four trees, he lost only three.

ON THE EFFECTS OF VERY HIGH TEMPERATURE ON SOME SPECIES
OF PLANTS. BY T. A. KNIGHT. DEC. 1819.

Having constructed a forcing house, for the purpose of attempting the culture of the mango, and some other tropical fruits, Mr. Knight endeavored to ascertain the advantages and disadvantages of employing *very high temperature*, during the day in bright weather, and comparatively low temperature, during the night and in cloudy weather. The following are some of his experiments:

A fire of sufficient power, only, to preserve in the house a temperature of about 70° , during summer, was employed; but no air was ever given, nor its escape facilitated, till the thermometer, perfectly shaded, indicated a temperature of 95° , and then only two of the upper lights, one at each end, were let down about four inches. The heat of the house was consequently sometimes raised to 110° , during the middle of warm and bright days; and it generally varied, in such days, from 90° , to 105° , declining, during evening to about 80° and to 70° in the night. Late in the evening of every bright and hot day, the plants were copiously sprinkled with water, nearly of the temperature of the external air;

and the following were the effects produced upon the different species.

The Melon. Plants of this species were trained upon a trellis near the glass, which was of the best quality; and these exhibited an extraordinary degree of health and luxuriance; but not a single flower ever unfolded. A great profusion of minute blossoms appeared in succession, at the points of the shoots, and all perished abortively. He was disappointed at this result, as he expected to obtain superior fruit.

Water Melon. A plant of this species treated in a similar manner, grew with equal health and luxuriance, and afforded a most abundant blossom; but all its flowers were male. Mr. Knight was not surprised at this result, for he had previously succeeded, by long-continued very low temperature, in making cucumber plants produce female flowers only; he therefore, entertained but little doubt that the same fruit stalks might be made, in this and the preceding species, to support either male or female flowers, in obedience to external causes.

The Guernsey Lily. He transferred plants of this species from the open air to the hothouse, in the summer, with the hope of obtaining seeds, but was disappointed. The flowers expanded beautifully, but their pollen was not shedded. It appears therefore, from this and the two preceding experiments, that the same degree of temperature which may promote the growth and exuberant health of the plant, may at the same time, render it wholly unproductive of fruit or offspring.

The Fig Tree. The White Fig tree succeeded well under this management, first ripening its spring figs (those which usually ripen in the open air) and afterwards its summer figs. The trees then produced new leaves and branches; and the fruit which would have appeared in the next spring, ripened in high perfection in September.

The Nectarine. A seed of this species was planted in a hotbed in January, and it vegetated the succeeding month. It was subsequently removed to the hothouse, in which it continued to grow through the summer, without being in the slightest degree drawn by the high temperature in which

it was placed. Its wood, on the contrary, was remarkably short jointed, and was covered with blossom buds. He thought it would be practicable to obtain ripe fruit, within sixteen months of the period at which the plant first sprang from the ground.

Orange and Lemon. A very high temperature appeared peculiarly favorable to plants of this kind. A plant which sprang from the seed in March, had, at the end of August, attained the height of more than four feet, with proportional strength. He obtained a plant of the China Orange, with one very small fruit upon it, which ripened perfectly, and the tree exhibited every appearance of exuberant health.

Several other plants, part of them natives of temperate climates, grew in his house through the whole summer, without any of them being drawn, or any way injured by the very high temperature to which they were occasionally subjected. From these and other facts, he inferred, that in almost all cases, in which the object of the cultivator is to promote the rapid and vigorous growth of his plants, very high temperatures, provided they be accompanied by bright sunshine, may be employed with great advantage. But it is necessary that the glass of the house be of good quality, and that the plants be placed near it, and abundantly supplied with food and water.

PRUNING AND MANAGEMENT OF THE VINE.

TRANSLATED "FROM MAISON RUSTIQUE," BY SHELDON MOORE.

NATURAL VEGETATION OF THE VINE.

THE principles which direct the pruning and management of the vine, exhibit the greatest analogy with those which we have set forth for the pruning and management of the peach tree; this consideration, founded on experience, induces us to place here the precepts of the art of directing the vine trellis, although in the natural order we ought first to treat

of the apricot, the plum, and the other stone fruits.* It is in fact, for him who understands well the pruning and management of the peach in espalier, the application of the same principles to the formation of the vine trellis, and offers no other difficulty. (For the vine in *grande culture*, see tome 2d, p. 95.)

The pruning of the vine conducted in espalier, to obtain grapes for the table, has this in common with that of the peach tree, that in both the problem to be resolved consists in producing, upon the lower part of the fruit branch, the shoot (*bourgeon*) designed to replace it.

We take into consideration, as we have done for the peach tree, the mode of vegetation peculiar to the vine. One principal fact governs all others, viz., the simultaneous formation of the fruit and of the wood which bears it. On all fruit trees (the vine alone excepted) the branch exists first, the issue of a bud, designated as a wood-bud; afterwards on this branch spring buds, some for wood, others for fruit. These last are met with, either on the last year's wood, or on the older, but always the fruit branch exists previous to any flower bud, or any fruit production. In the vine, the same eye is at the same time, both for wood and for fruit. The bud of the vine, known in all France by the name of *bourré* (*wad*) on account of a species of down with which its exterior is covered, always contains both the wood and the fruit. There are no grapes but on the present year's wood; at the awaking of vegetation, the cluster and the branch that is to bear it, put forth together. When the sap is too abundant, it expends itself entirely in forming wood; in this case, the young growing clusters or *blades* (*lames*) miscarry; they turn into *tendrils* (*vrilles*) or long filaments which attach themselves to all the surrounding bodies, and aid the vine to climb wherever it finds a point of support (*point d'appui*). It is not at all rare, in the middle of France, to see vines thus act and to grow in a few months to the length of 7 or 8 metres; they are then almost always sterile, or the very few grapes they bear are of poor quality. All the eyes of a well pruned vine push in the spring; the eyes

* Why?

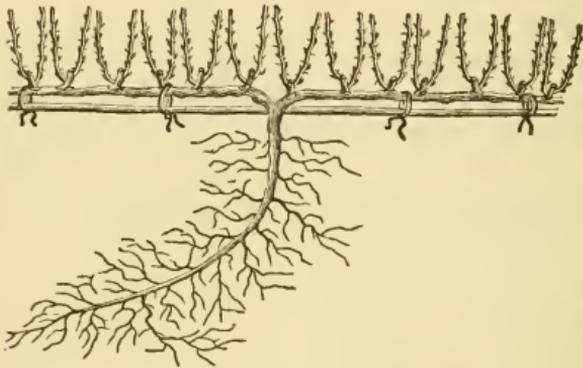
of the heel do not remain dormant except on branches badly pruned, or which have not been pruned at all. The bud is never solitary ; it is always accompanied by a sub eye (sous-œil), either simple, or double, a resource which seems provided by nature for the case where the main bud shall have perished by a spring frost ; the sub-eye then replaces it, and often with advantage ; having started later than the bud, it could not be affected by the frost ; it is that which explains the abundance of fruit after a frost which has destroyed the buds ; a phenomenon of which our vineyards offer frequent examples.

We notice also a fact which results in some sort from the foregoing ; the grape never attains its perfect ripeness, when the wood which bears it is imperfectly ripened in August ; the wood and the grape, as the vine dressers say, ripen together ; if the wood is not ripe, the grape cannot ripen. The examination of these facts, casts a great light upon the mode of culture and the management most appropriate for the vine ; to consider the mode of vegetation of the vine, one sees that, left to itself, it produces nothing or next to nothing, the cares of man are indispensable ; it recompenses them largely. To cause the wood to grow, and ripen seasonably so that the grapes may ripen seasonably ; to prevent an excess of vegetative force from turning the sap of the grape to the exclusive profit of the wood ; such are the two principal points which the gardener ought not to lose sight of, and which ought to guide him in the mode of managing the vine in espalier. It is by having perfectly learned and appreciated these facts and by having conformed their practice to them that the gardeners of Thomery have come to produce a grape unequalled in France as a table grape. At Bordeaux they graft the vine, to rejuvenate old stocks, or to modify the species. They thus obtain the most beautiful results.

THOMERY SYSTEM OF PLANTING THE VINE.

The cuttings are planted in a trench parallel with the foot of the wall. During the vegetation of the following year, they are careful not to suppress the eyes that spring along the main stem in order to favor the increase in length ex-

clusively; the wood does not become robust except by aid of the shoots that spring along the stem and are left to retain a part of the sap, then they are pinched as often as necessary, six to eight inches between *Coursons*. The texture of the wood of the vine differs essentially from that of other fruit trees; it has scarcely any apparent sap wood; the centre of the shoots to be cut off each year, is occupied by a large medullary canal that does not bear contact with the atmospheric air. So while a branch of an apple tree, for instance, cut off close to a wood-bud, prolongs itself by the development of that bud without suffering any other damage



8. THOMERY SYSTEM OF PRUNING.

than a prompt healing of the wound, when the cut is well made, the branch of the vine, cut off close to a bud, dies down to a certain distance and causes the death of the bud itself. We see then how important it is to leave a sufficient distance between the bud and the cut; this distance may conveniently be three centimetres, and should never be less than two centimetres.

[The French call the main branches *cordons*, the shoots which spring from them *coursons*, and the annual shoots *sarments*.]

REMOVING SUPERFLUOUS BUDS (EBOURGEONNEMENT.)

The principles of the *Ebourgeonnement* of the vine are the same as those of the peach; in the one, as in the other of these vegetables, there should not be left more of the present

year's shoots than the stock will reasonably support; we should be careful above all of exacting of the vine, by an inconsiderate avidity, too abundant products, taken at the expense of future products; the development of the shoots of replacement is, for the vine, as for the peach, the essential object of removing superfluous buds or shoots. This operation should be repeated many times, at first when the young shoots have acquired the length of o. m., 15 to o. m., 20, (15 to 20 cent.) afterwards, as the state of vegetation makes it necessary. Only it must cease during the time the vine is in flower, through fear of causing the grapes to drop by carrying too much sap to them. The vines under the Thomery management rarely need this pruning, the sap is so equally distributed.

[The Thomery System (FIG. 8) has been practised for a long period, and its superiority fully established; no mode has yet been found to surpass it, and the Thomery grapes have a world-wide reputation. We should be glad to see it tried with our native grapes, particularly the weaker growing sorts, such as Delaware and Rebecca. Even with the strong growing kinds there can be no better system, provided the annual growths are not pruned quite so short, say to the length of three or four feet. Its advantages are ably elucidated in the valuable article translated by Mr. Moore.—ED.]

ARBORICULTURAL NOTICES.

WITH the exception of the additions from Japan, but few new or distinct species of hardy trees or shrubs have been introduced; but of seedlings or sports of great interest quite a number have been brought to the notice of cultivators; we shall endeavor to mention the most important.

CRATÆGUS PINNATIFIDA.—A tall thorny shrub, inhabiting the north of China, up to the Amoor district, and on the Manchourin coast, consequently one which from its northern locality will probably be entirely hardy in our climate. The

leaves are long, oval, pinnatifid, two to four lobes on each side; these lobes are long and denticulated, smooth on the upper side; having at the nerves on the under side, large denticulated stipules, flowers in terminal corymbs. Propagated by seed which like other thorns require a year to germinate; but it can undoubtedly be propagated by budding or grafting like the other species. (*Revue Horticole.*)

PHILADELPHUS HIRSUTUS, NUTT.—This fine native species common in Tennessee, and introduced into Bartram's Botanic Garden forty years ago, has recently been noticed in the *Garten Zeitung*, as having been introduced from Oregon, by Messrs. Veitch of London. Col. Carr sent plants to Mr. Loudon in 1830, who states in the *Arb. Britannica*, that they grew finely, and attained the height of six or eight feet. It differs but little from other kinds except in its hispid foliage. It is well worthy a place in our collections. The flowers are stated to swell like melilot.

VARIEGATED LEAVED LIME TREE.—The Illustration Horticole gives an account, with a beautiful colored plate, of a new variegated lime (*Tilia parviflora foliis variegata*), which appears to be a distinct and very ornamental tree. The leaves being of a clear green, very deeply edged, or blotched with white, more conspicuous than in the generality of variegated leaved plants. It will be a most acceptable addition to plantations of curious and ornamental leaved trees. It came from Silesia, but whether found growing wild, or a seedling or sport in some nursery, is not known.

JAPAN TREES AND SHRUBS.—It will be recollected that Mr. T. Hogg of New York sailed for Japan last spring, for the purpose of collecting and sending home some of the fine things growing in that rich country. In a letter to his brother, Mr. Jas. Hogg, dated Nov. 10, he states he has made his first shipment of plants, among which are *Abies firma*, *Veitchiana* and *Tsuga*; *Sciadopitys verticillata*, *Pinus Koraiensis*, *Picea pichta*; two new larches; five new species or varieties of *Retinospora*, besides *R. pisifera* and *squamosa*; *Thuja Nutkaensis* of a drooping habit, similar to *T. plicata*; *T. japonica*, similar to *T. sinensis* but denser like *T. aurea*;

three new magnolias; *Stuartia monadelphica*, *Styrax obtusa* and *S. japonica*, *Planera acuminata*, &c. (*Horticulturist*.)

RARE AMERICAN PINES.—Lovers of coniferous trees will read with pleasure the following account of several pines, most of which are probably hardy, by Dr. Geo. Englemann of St. Louis, in *Silliman's Journal*. These pines were collected by Dr. Parry, in his recent explorations in the Rocky Mountains. It is to be regretted that Dr. Parry did not send home seeds for distribution:—

ABIES GRANDIS, LINDL. Not common in this region, resembling much the Eastern *A. balsamea*, Fendler's N. Mex. No. 828 is the same.

ABIES DOUGLASHII, LINDL. "Abundant through the eastern mountain district, except on the higher elevations. A very slightly tree, of the average height of 80 feet, with a graceful, oval outline; the spreading branches curving upwards at the extremities. Wood of slow growth, but very indifferent, inclined to warp and crack, turning reddish-brown in drying." This species, as well as the nearly allied *A. Canadensis*, is well distinguished from all our other Pines by the distinctly petioled leaves. Fendler's N. Mex. No. 829.

ABIES MENZIESII, LINDL. "A finely shaped tree, though of rather stiff outline, of rapid growth; wood very compact, but rather coarse grained and pitchy; the logs taper too rapidly to saw up to advantage." Cones pendulous from the end of the branches. Leaves stouter than in any other allied species, stiff and very acute, almost spinescent.

ABIES NIGRA, POIR. Probably the same as the northeastern tree, characterized by the slender and very acute leaves, ovate cones with thin and crenate margin of the scales, a pale-leaved form of which is usually named *A. alba*, but which Prof. Gray has demonstrated to belong to *A. nigra*. The true *A. alba* (leaves somewhat stouter and obtusish, cylindric cones with thickened entire margin of the scales) seems to extend from Canada to the northern Rocky Mountains, where it has been gathered by Borgeau; but it has not fallen under Dr. Parry's or Dr. Hayden's observation, on the head quarters of the Kettle, Colorado, Missouri and Columbia Rivers, where

Abies nigra seems to be abundant, extending down to Santa Fe (Fendler, N. Mex. No. 833). Dr. Parry found it "composing almost the entire forest growth of the mountain slopes of Middle Park about the head of Grand River: a magnificent tree 80 to 100 feet high, with an even, columnar trunk, below, 2-2½ feet in diameter, tapering upwards; of rapid growth; bark scaly, smooth and quite thin, of a purplish brown color, full of tannin, and quite different from the rough brown bark of *A. nigra* of Wisconsin; wood remarkably white and soft, free of knots, and scarcely resinous, preferred for inside work." Could this be *Abies rubra*, Loud., and specifically distinct from *A. nigra*?

PINUS ARISTATA, ENGELM., in St. Louis Transact., vol. 2, tab. 5 and 6. Dr. Parry had the good luck to discover this very peculiar and exclusively alpine species "which does not descend lower than 9000 or 10,000 feet," on the higher mountains of Clear Creek. As a full description and a figure has been given in the Transactions of the St. Louis Academy I confine myself here to the statement that it is our only representative of Endlicher's section, *Pseudostrobus*, which comprises numerous Mexican, a few Central American, and a single West Indian species; it is characterized by quinate entire leaves and horizontal ovate cones, with thin apophyses on the long mucronate or aristate scales, and small-winged seeds. In sheltered situations it forms a tree 40 or 50 feet high, and 1 or 2 feet in diameter, but on the higher bleak mountains it is a stunted bush often thickly covered with fruit. Its growth at least in the latter localities, is exceedingly slow, as a stick of scarcely more than one inch in diameter, brought back by Dr. Parry, shows nearly fifty annual rings, some of them 1-60 of a line, and none more than ⅙ of a line wide.

PINUS FLEXILIS, JAMES. This species, discovered in the same regions, by Dr. James, has to some extent remained doubtful, as his description in the account of Long's Expedition, and Torrey's diagnosis in the Annals of the New York Lyceum (Vol. II., p. 249) are based on notes only, no specimens having been collected. By later writers it has been ignored, until Mr. Fendler in 1847 collected it on the moun-

tains above Santa Fe, (Coll. N. Mex. No. 832), when a short notice was published by the writer in the appendix to Wislizenus' Memoir of a Tour to New Mexico, &c., 1848. Endlicher, in his Synopsis Coniferarum, 1847, does not enumerate it, and Carrière in his Traité des Conifères, 1855, credits it to Wislizenus, translating only my short remarks. Nuttall, however, had already (in 1849) given a somewhat extended account of it, with a poor figure, in the continuation of Michaux's Sylva (Vol. III., p. 107, pl. 112), without clearing up the doubts, which Dr. Parry in his present expedition, 1862, is expected finally to settle. My brother, H. Englemann, collected it on the head waters of the Platte, and Dr. Hayden on the mountains about the head waters of the Yellowstone, Missouri and Columbia rivers. Dr. Parry notes that the cones grow several together, "semipendulous" at the extremity of the horizontal branchlets; while James gave his plant "erect" cones. Near Santa Fe it grows at the elevation of 8000 or 10,000 feet, and in favorable situations becomes 60 or 80 feet high, and bears "pendulous" cones, according to Fendler's note. *Pinus flexilis* is certainly intermediate between the sections *Cembra* and *Strobus* of Endlicher, and unites the two, as does *P. cembroides*, Newberry, Pacif. R. Rep., Vol. VI., Bot., p. 44, not Zucc.,* if, indeed, this is not a mere form of *P. flexilis*, approaching by its short cones close to *P. Cembra*. The large seeds of *P.*

* Zuccarini's plant of that name is one of the curious little group of American Nut-pines, including the following four species: *Pinus monophyllus*, Torrey and Fremont, with single (not connate, as Endlicher would have it) leaves; *P. edullis*, Engelm., with 2 leaves; *P. cembroides*, Zucc., (including *P. Llaveana*, Schiede. not Torr., and *P. osteosperma*, Engelm.,) with 3 leaves; and *P. Parryana*, Engelm., (*P. Llaveana*, Torr. Bot. Mex. Bound., p. 208, t. 53), with 3-5 mostly 4 leaves. Other characters, taken principally from the bracts of the young shoots, strengthen the specific distinctions. This very natural little group is characterized by the small, almost globose cones, the scales bearing large pyramidal apophyses and large edible seeds, the wings of which remain attached to the scale, which, I suspect, is the case in all "wingless" seeds of pines; in *P. Pinea*, however, the wing is very distinct, and detaches itself clearly from the scale, and at the same time also from the seed itself, which is likewise the case in the closely allied, though 5-leaved, Californian *P. Torreyana*, Parry, where the wing, besides, is very thick, and of a corky substance. The great variability in the number of leaves in the nut-pines, proves that sectional characters taken from them are without value.

flexilis are, as Dr. James already stated, and as Dr. Hayden confirmed, eaten by the Indians. They are distinguished from those of any other of our Pines by a persistent, sharp, keeled margin, representing the wing.

PINUS PONDEROSA, DOUGL., is "common through all the lower valleys and less elevated districts of the mountains, associated with *A. Douglasii* and *A. Menziesii*; a most valuable timber tree." Fendler's N. Mex. 831. Male aments cylindrical, several inches long.

PINUS CONTORTA, DOUGL., "is quite abundant on the crest and slopes of dry subalpine ridges, forming the principal part of the forest there, and extending to near the snow line; a symmetrical tree of rapid growth, 30 or 40 feet high, with slim and tapering trunk a foot in diameter, a smoothish grayish-brown bark, detached in thin scales, and tough but coarse wood, which is liable to warp, and rarely cut into boards."

POMOLOGICAL GOSSIP.

AUTUMN NELIS PEAR.—A new variety, under this name, is announced as one of the most delicious pears ever offered to the public. Besides being an abundant bearer, it will be one of the best for orchard-houses, and for limited space, as it grows quite erect and compact, so that it might be planted five feet apart. It was raised from seed by F. J. Graham, Esq., of Crawford, who exhibited it at the Horticultural Society's Grand Fruit Show in October, where it obtained unanimously a first class certificate, the following eminent gentlemen being the judges:—Sir Joseph Paxton, Dr. Hogg and Messrs. Rivers, Moore and Eyles. Mr. Rivers, in a letter to Mr. Graham says, "with regard to your pear, we (Sir J. Paxton, Hogg and self) did it full justice last Friday, for we all agreed that its flavor was most exquisite, and gave it a first class certificate." The Report of the Judges speaks as follows, in regard to this pear:—

"It has been in bearing six years, and has proved a good bearer, the fruit growing in clusters of from two to upwards

of twenty, bringing the branches down to the ground. Fruit fit to gather from the middle to the end of September, of an elongated Bergamotte shape, dark green, turning to pale cinnamon russet when ripe. Flesh tender, of the finest grain, with scarcely any core; full of juice of the most exquisite flavor."

FOSTER'S SEEDLING GRAPE.—This is a fine new grape, which can be confidently recommended for general cultivation in cool vineries. It has borne an abundant crop in the large conservatory of the Royal Horticultural Society at Chiswick, the bunches being large, with medium sized berries, of a pale amber color. The flavor of Foster's Seedling is most luscious, equalling the richness of its twin sister, Lady Downe's, and as far as can be seen, partaking of the same quality of hanging well without shrivelling.

JAPANESE PERSIMMONS.—Mr. Thomas Hogg, in speaking of the Japanese fruits, thus alludes to the persimmon: The peculiar and characteristic fruit of the country is the persimmon; not like the notable fruit of that name known in North Carolina for feeding hungry folks; but like many other things here, entirely the reverse of what it is with us. It is a substantial looking fruit, yellow when ripe, as large as a medium sized orange, with a delicious subacid pulp eaten with a spoon. No longer let persimmons be a by-word of all that is distasteful and puckery; but let it have an honorable place among the fruits of the earth suitable for man. The tree is very ornamental when laden with fruit. It is as far different from our persimmon as a Bartlett pear is different from a choke pear." Its introduction would be a novelty, and, if too tender for the open ground, would be desirable for orchard-houses. We notice that trees in quantity have been imported into San Francisco, direct from Japan, and are offered for sale, so that it may soon be obtained from that quarter, even if Mr. Hogg does not send it home.

NEW APPLES.—There is no end to seedling apples, of greater or less merit. In our various agricultural journals several are described, of which we copy the following brief account:—

CUSTARD APPLE.—A tender and delicious variety, originated on the farm of L. B. Langworthy of Rochester, N. Y. Its size is small, but very tender, juicy, and of good flavor; skin green, with a slight blush, and sometimes a little striped or spotted on the sunny side. It resembles the Rambo more than any other, both in appearance and texture, but is even more tender and juicy. It is in eating from November to the middle of December.

FOURTH OF JULY APPLE.—Introduced from Germany, and thus noticed by Mr. L. Pantlain of Chicago. The Fourth of July apple, in Germany called the Siberian August apple, was sent from the Russian province Liefland, in the year 1807, to the celebrated pomologist, Dr. Diel, and is celebrated, like all our summer apples which originated in Russia, for its great productiveness and hardiness. In Germany a sure crop is depended upon every year. The apple there is more acid in the northern part of the country than in the southern part, where in good seasons it is considered a fruit for the table.

CRACKING APPLE.—Mr. James Smith, of the Des Moines nursery, cultivates this variety, and has sent it, among others, to the Editor of the *Prairie Farmer*, who says the Cracking is now in season, and is a cracking good apple—no mistake. Mr. Smith regards the Cracking as one of the very best fall apples in his collection. The tree is a good bearer, and the quality of the fruit good enough.

PACKING APPLES FOR SAFE CARRIAGE.—At the great Exhibition of the Royal Horticultural Society of London, in October last, a fine collection of apples was sent from Nova Scotia, which commanded the greatest admiration, and was pronounced the finest fruit ever seen in Great Britain. A late number of the *Gardeners' Chronicle* thus alludes to this collection of fruit, and the mode of packing, by which it was received in such excellent order. Our cultivators, who wish to send fruit a long distance for exhibition, may gather some hints from this. "Our readers and the visitors to the recent fruit shows of the Royal Horticultural Society cannot have forgotten the surpassing beauty and equal excellence of the apples communicated by the great Colony of Nova Scotia. Certainly nothing like them had been previously seen at any public exhibition

in this country. The other day we received a similar box, packed in a manner that deserves to be known.

A wooden box was filled with trays, each two feet long, eighteen inches wide, and five inches deep, divided by partitions into spaces four inches wide. These trays had a layer of *dry* ground plaster strewed over the bottom; on this layer the apples were placed in a single row; more plaster was carefully filled in between the apples, and the whole was covered with an inch of plaster, well shaken down, so that the fruit became immovable. Packed in Halifax on the 9th of Jan., the box arrived on the 25th. Upon being opened the fruit was found to be in the most beautiful preservation, both as to appearance and quality. The plaster having been perfectly dry, no decay from moisture or fermentation was possible, and a soft brush removed it easily.

The Editor thinks that such choice specimens arriving in London before Christmas, would bring a high price, "as our London can produce nothing like it."

BERGAMOTTE D'ESPERIN PEAR.—A writer in the same paper, alluding to late pears, states that he is anxious to point out the admirable qualities of the Bergamotte d'Esperin. "A specimen of this sent to a friend by M. Van Houtte was tried yesterday (Jan. 26) and proved to be as good as a Brown Beurré at its best. It would have kept, I should think, three weeks longer. As plenty of time is left he hastens to communicate the fact, in order that those, who like him have no years to spare, may obtain the variety at once."

We have had this variety in bearing a long time, and the late Mr. Reid spoke well of it, some years ago, in the Magazine; but it never ripened up with us, and became melting and good till this year, when, to our surprise, on looking over a bushel of the fruit this day (Feb. 15) we found it melting and delicious, nearly equal to the Easter Buerré. To what this is owing we cannot say, for the specimens were no larger or better than in previous years, and were kept in the same place. It may be attributed to the season, or what is more likely, the age of the tree, now having been planted nearly twenty years.

DWARF APPLES AND PEARS.—Mr. Rivers, in alluding to his experiments in raising seedling apples which did not accomplish anything with this fruit, thus speaks of the importance of dwarf apples :—

The French cultivators have a far more correct knowledge of the kinds of stocks adapted to different kinds of fruit than the English nurserymen, who seem to neglect this branch of their business, and are far behind their French brethren. Some of the latter, very experienced men, saw a Nonsuch stock last August, of dwarf habit, which I had raised from seed, and which grew readily from cuttings, and were charmed with it, and at once said it was the most valuable stock for garden apples trees known.

I was amused with a remark made by these gentlemen ; they said, You English plant a standard, and wait twenty years for a crop of fruit. We plant twenty trees on the paradise stock, and wait two years ; they may not last as long as yours, but if they wear out we plant again.

The French nurserymen were to a certain extent correct, for as I remember, planters of fruit trees thirty or forty years since wished every tree they planted to last from “generation to generation ;” and so they planted late standards, and declared that a pear-tree on a quince stock was worthless, because it would not live a century. The enormous amount of time now “eaten up” in planting orchards in Gloucestershire and Worcestershire is well known ; strong stocks with stout stems, seven to eight feet high, and which take about ten years to rear, are planted out in grass fields, and, after standing there four or five years, they are grafted ; by the end of the life of the planter, if he live to a good old age, the trees begin to bear. I mention this rude way of planting to contrast it with the management of good fruit gardeners, who, like the French, may, if they plant trees on proper stocks, commence to reap fruit the second year after planting.

OLD VERSUS NEW GRAPES.—Among the grape growers in Great Britain there has been quite a discussion relative to the merits of old grapes in January, or new ones ripened at the same time, one contending for the former, and the other for the latter ; the matter to be decided by the Fruit Committee

of the Royal Horticultural Society by the exhibition and trial of specimens last month. The trial took place, and the decision was in favor of the OLD grapes. Mr. Tillery of Welbeck was the champion of the latter, and Mr. Thomson of Dalkeith of the former, and the specimens came from these cultivators.

The Editor of the Gardeners' Chronicle thus alludes to this friendly passage of arms between the champions above named : " We must, however, venture to express an opinion that this result does not settle the question of the merits of new as compared with old grapes, at this season of the year, so far as it concerns the general public. The decision, at first sight, would seem to indicate that new grapes must be inferior, and consequently their production a question of little horticultural moment. Now, we do not think the matter stands exactly so. As we understand it the question to be decided was, which of the two competitors could, in the month of January, produce the 'best flavored' grapes, the one showing old, the other new fruit. This reduced the comparison within very narrow limits. True, flavor is a point of the first importance, but different individuals have different notions as to excellence of flavor, and it may fairly be questioned whether a majority of grape eaters would endorse the decision on this point at which the Committee arrived. At any rate we do not. It so fell out that 'we' ourselves (journalists are an ubiquitous race) happened to be present as witnesses of the contest, and 'we' not only saw but tasted. As to what we saw, our report is that in appearance the old grapes were very far inferior to the new—lank bunches and shrunken berries, against compact clusters and plump juicy fruit. As to what we tasted, we say the old grapes were good—decidedly good, having been well kept, their flesh sound and firm, and their flavor rich and sugary ; while, in comparison, the new grapes were much more juicy, somewhat less sugary, though in the best samples not many degrees below the others, and having a decided vinous smack, which the kept fruit entirely wanted. The flavor in the two cases was, therefore, entirely different ; those who like sugary richness, without vinous aroma, would prefer the old sample, as was the case with the majority on

this occasion; those who, like ourselves, prefer vinous juice as well as sugar in the fruit of the vine, would rather choose those which had been newly ripened.

PEACHES WITHOUT GLASS.

BY JAMES WEED, MUSCATINE, IOWA.

IN the description of my method of growing peaches and other half-hardy fruits simply by a system of protection, *without glass*, published in your November number, I presented a straw thatching as most likely to give a simple and clear idea of the objects sought to be obtained.

Frames thus covered with straw will completely answer the purpose in all cases where only a moderate protection is required, but would be wholly inadmissible in some locations, as in city gardens; and in high latitudes their *utility* may be questioned when *economically* considered, as the larger amount of straw that would be requisite, and the skill and extra labor required in thatching, would probably equal the additional cost of materials necessary in a substantial wood structure.

From experiments I am conducting this winter, I am satisfied that frames covered on each side with matched flooring enclosing *perfectly tight* six-inch air spaces, and the frames made to shut "*air-tight*" over the trees, will uniformly realize the most sanguine expectations in any part of Maine, Wisconsin or Minnesota.

This structure can be substantially built and finished in good style for less than *one-half* the cost of the orchard-house.

As to *one hundred* per cent. increase of product, the following are the data on which it is predicated—two trellises occupying the centre of the structure twelve feet high, say 40 feet long, four feet apart at the base, and united by a ridge board at the top, give 960 feet of trellis superficies; and two similar trellises located one on either side, four feet from the base of the centre span, being hinged at the bottom to

admit of being turned with the trees attached against the centre span afford a similar extent of trellis, making a total of 1920 feet of trellis surface for a structure 12×40 feet, which can be completely housed by this double-walled enclosure. Plant four rows of trees four feet apart,—at the base of each trellis, trees two feet apart in the row, train as single cordons,—then make all reasonable deductions from these data you may think necessary and compare with trees *in pots* in *orchard-houses* to be *wintered in cellars*.

The following table exhibits the external and internal temperature of a protector constructed of rough boards, the six inch spaces between the double covering being filled with sawdust. The joints between the frames are not perfectly tight; in the future construction the joints will be closed by a board with a pad made of straw and gunny-sack attached, which will render the inclosure air-tight and these pads will be durable, as they can be housed under the frames when not in use and are not exposed to the weather when in use.

TEMPERATURE.

1862. Dec.	External.			Internal	
1	12°				
2	2°				
3					
4					
5	10°			10°	Before packing.
6					Finished packing.
7					
8	20°			20°	
9					Rain.
10	50°			28°	
11	40°			30°	Rain.
12	44°			30°	
13	50°			31°	
14	46°			33°	
15					Warm.
16	25°			31°	
17	13°			31°	Windy.
18	26°	48°		31°	
19	28°	34°		31°	
20	19°	28°			
21	44°			31°	
22		50°		31°	
23	38°			31°	
24	44°	52°		32°	Rain.

TEMPERATURE.

	External.				Internal	
1862. Dec.	25		52°		32°	Rain.
	26	44°	48°		32°	
	27	28°	30°		32°	
	28		50°		32°	
	29	28°			31°	
	30	22°				
1863. Jan.	31	18°	32°		31°	Open. Open, rain. Open. Clear. Snow. Open under the doors. [Clear, sun days. Clear. Open. Therm'eter slide frozen. Cloudy, with some wind. Open. Warm. Warm. Open. Open under doors.
	1	32°	28°	50°	31°	
	2	38°	42°			
	3	42°	50°			
	4	38°				
	5	36°		32°		
	6	4°	9°		18°	
	7	7°			26°	
	8	14°	28°	22°	26°	
	9	30°	40°		28°	
	10	25°	32°		29°	
	11	29°	34°		30°	
	12	29°			29°	
	13	45°			32°	
	14	18°	26°	18°		
	15	10°	14°	12°	30°	
	16	6°			24°	
	17	12°	26°	18°	24°	
	18	20°			26°	
	19	32°				
	20	34°			34°	
	21	32°			33°	
	22	30°			32°	
	23	40°	43°		34°	
	24					
	25					
	26		31°		31°	
	27	15°			30°	
	28	12°	30°		30°	
	29	12°	36°	22°	30°	
	30	22°			27°	
31	22°			30°		
1863. Feb.	1	12°		2°	26°	
	2	-4°	6°	-6°	18°	
	3	-12°	2°	8°	12°	
	4	10°	20°	20°	18°	
	5	-2°		6°	17°	
	6	-2°	27°	24°	16°	
	7	22°			18°	
	8	28°		32°	22°	
	9	30°			26°	
	10	8°			26°	

It will be noticed that the mercury did not fall below zero until the 2d of February, when it stood minus four degrees; at 9 P. M. six degrees, and on the morning of the 3d the

maximum cold of twelve degrees below zero was reached. We hear it reported that the peach buds are killed, and our own observations lead us to believe they are at least mostly destroyed in some locations.

An advantage of *twenty-four* degrees will surely carry peach, apricot, and nectarine buds safely through our "cold spells" and much more can be obtained by proper construction. Ours was put up in cold weather, and not as tight as it should have been.

We commend Mr. Weed's plan of raising peaches without glass to the attention of fruit cultivators, believing that he has accomplished something in the right direction. It has appeared to us that the peach is too delicious a fruit to be neglected, and its cultivation partially abandoned, until all the means our skill and ingenuity could devise were exhausted in overcoming the obstacles to success. Thanks to Mr. Weed that he has come to our aid, and if the plan he has invented will accomplish the work, he will be amply rewarded for his labor. Mr. Weed is so sanguine that his system of protection is so simple, cheap and effective, that he proposes to offer for sale rights to erect the necessary structures throughout the country. The table that accompanys his communication shows satisfactorily the even temperature obtained. With the mercury at 12° below zero, the internal temperature was 18° , leaving no doubt of the perfect security of the trees from injury.—Ed.

FLORICULTURAL NOTICES.

NEW SPECIES OF ZINNIA.—A new species has been introduced into Germany called *Z. Ghisbrechtii*, which is stated to bear but little resemblance to the common kind. Its stalks are hairy, of a reddish tinge, and very branchy at the base. Leaves sessile, hairy, scabrous; lower ones oval, very much lanceolated; upper ones narrower. It is a beautiful

plant. It has more recently been introduced into the Parisian gardens, and seeds are now offered for sale.

NEW MARIGOLD.—Under the name of *Tagetes signata* *pumila*, Messrs. Wilmorin have introduced what appears to be a very interesting and ornamental annual.

ABOBRA VIRIDIFLORA.—A new climbing plant, belonging to the cucumber family; but having dark green and glossy, and finely cut leaves, in striking contrast to the forms of foliage usual to this class. The flowers are not very conspicuous, but the berries, which are small, are of a brilliant scarlet. As a climbing plant it appears to possess many merits, and will undoubtedly become a popular and interesting species.

LILIUM AURATUM VARIETY.—At one of the Autumn Shows of the Royal Horticultural Society Mr. Standish exhibited a new form of this great lily—one with all the spots on it of a bright rosy color; and *roseum punctatum*, Mr. Beaton says, being a distinguishing name already for a variety of *lancifolium*, this should also have a *roseum punctatum* after *auratum*, so that all may know the extent and meaning of the application of the name, instead of loading the memory by a new one, which could not give the meaning for it one half so well. But the *roseum punctatum* of this *auratum* lily is more manifest in the face of the flower, than the same is seen in that variety of *lancifolium*.

667. CATALPA KEMPFERI *Sieb. & Zucc.* KEMPFER'S CATALPA. (Bignoniaceæ.) Japan.

A hardy shrub; growing six feet high; with white spotted flowers; appearing in summer; increased by seeds or grafting; grown in rich garden soil. *Ill. Hort.*, 1832, pl. 319.

A nearly hardy shrub, introduced into our gardens a year or two ago, but which with us has not yet flowered, the growth having been slightly injured in the severe winter of 1860, and as yet doubtful whether it will arrive at a flowering state, from the succulent nature of the wood suffering as the common catalpa often does. The growth is dwarf and compact, and the foliage is small and handsome, forming an ornamental shrub without its blossoms. The flowers are similar in color and form to the common species, but are smaller, and the clusters of blossoms which are terminal are more dense, and of smaller size, appearing like a dwarf

variety of the former, though M. Linaire thinks it a distinct and well defined species peculiar to Japan, and not introduced from America, as some have supposed, from its great similarity to our native kinds. (*Ill. Hort.*, April.)

668. ADELA'STER ALBOVIRENS *Lindl.* WHITE-NERVED ADELASTER. (Acanthacæ.) Peru.

A hothouse plant; growing three feet high; with variegated foliage; increased by cuttings; grown in light rich soil. *Ill. Hort.*, 1832, pl. 320.

A beautiful foliaged plant, with leaves from six to twelve inches long, of a very dark olive green, all the nerves being of a snow white, and purple beneath, forming a bold contrast of coloring. The leaves are oval, indistinctly dentated, acuminate at the point, and decurrent at the base. It grows freely in any good soil, and requires only a moderate heat in winter. For vases and jardiniere it is stated to be a valuable acquisition, it having a slightly climbing habit, and small specimens displaying the variegation in perfection. (*Ill. Hort.*, April.)

669. CAMELLIA, VAR. CORA L. BARTON. Garden Hybrid.

This is an American seedling, sent to Belgium by Messrs. Buchanan & Son of New York. It is a very pretty variety, the flowers being of medium size, white, delicately striped with crimson, of good form, imbricated, but not quite perfect in the centre. It has somewhat the appearance of Abby Wilder, but with more coloring in the stripes, and not quite so perfect in form. The habit is good, and it is said to be a free bloomer. (*Ill. Hort.*, 1863, pl. 321.)

670. CALADIUMS, C. DEVONIANUM AND C. SPLENDIDUM.

Hothouse plants; growing two feet high; with variegated foliage. *Ill. Hort.*, 1832, pl. 322.

Two more of the beautiful Caladiums now the popular class among variegated foliaged plants, introduced by M. Barquin from the vicinity of Amazon River. C. Devonianum has a large deep green leaf, marked with Mosaic spots of silvery hue, and C. splendidum is in the style of bicolor, but with a deeper coloring of red, leaving but a narrow margin of green. Both are splendid acquisitions. (*Ill. Hort.*, May.)

671. *REINECKIA CARNEA FOL. VARIEGATA*. VARIEGATED-LEAVED
REINECKIA. (Asparagaceæ.) Japan.

A half-hardy plant; growing a foot high; with white and crimson flowers; appearing in summer; increased by division of the roots; grown in good garden soil. Ill. Hort., 1862, pl. 323.

A beautiful variegated-leaved variety of an old plant introduced half a century ago, and described by Loudon and Sweet. The present variety, with variegated foliage, was sent home by Siebold from Japan. It has a grass-like habit, and the flowers, which spring from the main stem at the axils of the leaves, are white above and red beneath, the stems and calyx being of a deep blood red. It is half-hardy, and wintered in the greenhouse or cold frame, and planted in the open ground in summer, will prove a valuable acquisition. (Ill. Hort., May.)

672. *BIOTA ORIENTALIS VAR. VERSCHAFFELTI*. VERSCHAFFELT'S
 VARIEGATED CHINESE BIOTA. (Cupressineæ.) Garden
 Hybrid.

A hardy tree; with variegated foliage. Ill. Hort., 1862, pl. 324.

This is a new and very ornamental variety of the Chinese arbor-vitæ, now called *Biota orientalis*, introduced, and we believe raised, by M. J. Makoy of Liege. The foliage is beautifully variegated, green and yellow, and from its neat habit will prove a valuable addition to our Coniferous plants. Unfortunately, in our more northern climate, the Chinese arbor-vitæ is not entirely hardy, in severe winters its foliage being so much injured as to mar the beauty of the specimens; but around New York, and farther south, it is never injured, and is extensively introduced into plantations. This new variety will be undoubtedly quite as hardy. (Ill. Hort., May.)

Horticultural Operations

FOR MARCH.

FRUIT DEPARTMENT.

FEBRUARY WAS a very favorable month, with only one or two cold days, the average temperature having been unusually high. The lowest temperature was 6° below zero, succeeded by a warm rain. So far, however, trees appear in fine condition, and the peach buds as yet uninjured.

GRAPE VINES, in the earliest houses, will now begin to color their fruit, and approach maturity. Air abundantly in fine weather, and keep the house drier than heretofore. The advance of the season will now admit of an abundance of heat, without danger of sudden changes of extreme cold. Vines, in greenhouses, now coming into full leaf, should have due attention, giving liberal supplies of air, and occasional syringing, until the flower buds are well advanced. Tie in the laterals as they grow, and thin out superfluous buds and shoots. Cold graperies should be kept cool by the free admission of air in sunny weather, to guard against any premature starting of the buds. Hardy vines may be safely pruned now; and grafting may be done the last of the month.

GRAPE VINES, in pots, now swelling their fruit, should be watered occasionally with liquid manure. Fresh plants may be introduced for a succession.

PEACH TREES, in pots, now setting or swelling their fruit, should have similar attention, giving them a better circulation of air, if possible.

STRAWBERRIES, in pots, should be more liberally watered as the fruit swells, using liquid manure occasionally.

ORCHARD-HOUSES should be freely ventilated, to keep down the temperature, until the weather is warm enough to start the trees safely. Where there is a good heating apparatus trees may be started into growth at once.

SCIONS of fruit trees may be cut now.

PRUNING should be done now at every convenient opportunity.

FRUIT TREES, infested with the scale, or bark louse, should now be cleaned and washed with whale oil soap.

TRENCHING, for new plantations of trees, may be commenced as soon as the frost is out of the ground.

FLOWER DEPARTMENT.

The mild weather of February has been highly favorable to the growth of all in-door plants, from the absence of strong fire heat, so necessary in extreme cold. They now present a stocky growth, unusual after heavy firing. The house should now be gay with all kinds of flowers, especially Camellias and Azaleas.

PELARGONIUMS will soon begin to expand their flowers. Continue to give them an abundance of air, from morning until night, unless very cold, and turn round the plants often, to secure handsome specimens. Give the shoots another tie, bringing them well down to the pot. Water sparingly, until the flower stems are well advanced.

AZALEAS. Plants intended for late blooming should be kept in a cool house, with as little fire heat as possible, beyond keeping out the frost. Shade in warm sunny days. Those now coming into bloom should be freely watered and syringed, and have a warmer situation, to bring the flowers all out at once. Plants, done blooming, may be repotted and started into vigorous growth. Young stock may be encouraged by a shift into larger pots.

CAMELLIAS will now be in full bloom; such as have done flowering may be pruned in and repotted, shaking out the old soil, and giving a fresh compost of good fibrous loam, with a free admixture of sand. Syringe freely while they are making their growth.

CINERARIAS will now be coming into flower. Fumigate for the green fly, and keep the plants on a cool shelf, near the glass.

SEEDS of various annuals may now be sown; such as Phlox Drummondii, Linums, Balsams, Asters, Petunias, &c. &c., also such climbers as Maurandya, Cobæa, &c. &c.

ACHIMENES AND GLOXINIAS, started into growth last month, may be potted off, singly, into small pots.

CHRYSANTHEMUMS may be propagated now.

HEATHS, in small pots, may now have a shift into larger pots.

BEGONIAS may have a shift into larger pots.

CALADIUMS should now be repotted, giving them a warm place.

ROSES, in pots, should now be encouraged by a shift into a larger size.

JAPAN LILIES, in pots, growing freely, may have a shift into a larger size.

VERBENAS, SALVIAS, PETUNIAS, and other bedding plants, as soon as potted off and well rooted, should be removed to frames where they can be hardened off for planting out in the open ground.

ACACIAS, now done blooming, should be cut back, so as to make compact bushy plants.

CYCLAMENS, now coming into bloom, should be more freely watered, giving them a good place on a shelf, near the glass.

AMARYLLISES should now be watered and started into growth or repotted, giving them a warm sunny aspect.

DAHLIAS, for early blooming, or propagation, may be potted and started into growth.

PLANTS, of all kinds, should be attended to, cleaning such as are infested with insects, pruning and repotting others, and preparing them for a spring growth, or summer or autumn bloom.

VEGETABLE DEPARTMENT.

If hotbeds were prepared last month, according to our directions, they will be stocked with plants ready to put into new beds, which should have been made or prepared, immediately.

Tomatoes, cucumbers, melons, cauliflowers, broccoli, and other plants, now transplanted either into pots or into the beds, will acquire a vigorous growth, ready for transplanting into the open ground in May.

In the open garden, if the weather is favorable, peas may be planted this month. Asparagus beds should be cleaned and topdressed. Ground should be prepared for planting beets, carrots, and other hardy vegetables, at the earliest opportunity. Lettuce may be transplanted to cold frames, merely protecting from frosts. Plantations of rhubarb should be cleaned and dug in good season. A frame placed over a few roots will start it into growth early.

AMERICAN POMOLOGICAL SOCIETY.

THE Ninth Annual Session of this Society was held in Boston last September, and a brief notice of the proceedings has already been recorded. As in previous years, we have preferred waiting until the official report appeared, to give an extended account of its doings, other imperfect and hasty reports often leading to error. Though late in its appearance, the volume has been carefully prepared, under the supervision of Mr. Vick, the Secretary, and is altogether a work in its general appearance and details of which the Society may be proud. Few can appreciate the labor bestowed upon such a volume, in order to have it as it should be, strictly correct; for all mistakes of names—of which there are very few, we are glad to say—lead to confusion in nomenclature.

Contrary to expectation, during a period when the country was convulsed to its very centre, the State Reports were not only more numerous but more extended than heretofore, so much so, that their publication would make a respectable volume of itself; to save this expense, which the Society is not yet able to bear, they have been omitted. As these however consist in the main of lists of varieties recommended by the various State and local committees for their sections of country, the information will be found in another form, the committee on the revision of the catalogue having incorporated it into the same, every considerable locality having been named in that catalogue, and every fruit indicated that has had the special commendation of the several committees; thus, at one glance, all the valuable information contained in the many hundreds of pages in the nine reports made since the organization of the Society, are condensed into less than one hundred.

Having in our last volume, (1862, p. 433,) alluded to the President's address, and given extracts therefrom, with other information relative to the meeting, we proceed to

review the discussions upon fruits, giving as briefly as possible the substance of the information elicited upon each variety. It was agreed that no vote regarding any fruit should be put, but that each member might express his opinion concerning any variety, and that these opinions should be the basis of a further revision of the catalogue.

APPLES.

BLINK BONNY AND GARRETSON.—Thought by Mr. Prince two of the best early apples. Downing, Parsons and Lyon, knew the Garretson to be good.

CORSES FAVORITE.—Said by Mr. Prince to be a fine stewing apple, ripening with the Early Harvest.

DRAP D'OR.—Recommended by Mr. Carpenter for its fine bearing qualities. Prince said it was a favorite in New York.

ENGLISH RUSSET.—Pronounced a great bearer, and keeping very late, but inferior in quality. Sells very well in market on account of its lateness.

WASHINGTON.—The President called it a remarkable apple, not inferior to Gravenstein in beauty. Mr. Stone considered it a good cooking and eating apple, and the President stated that Mr. Clapp of Dorchester esteemed it second to no other for beauty and the market.

SUMMER PIPPIN, OR TART BOUGH.—Underhill of New York, Lyon of Michigan, Carpenter and others, thought it a fine apple. Downing and Barry did not know the Tart Bough. Specimens were exhibited by Mr. Carpenter, and Mr. Underhill recognized it as the Summer Pippin, a very fine apple.

SHIAWASSE BEAUTY.—Proposed by Mr. Lyon of Michigan, who said it resembled the Fameuse, so much that it is difficult to distinguish them; it has none of the faults of that variety. The same season, and always a fine bearer.

FLUSHING SPITZENBURG.—Mr. Prince said it was a peculiar apple, of great vigor, and grown extensively on Long Island. Mr. Earle did not think it more than third rate in flavor.

GOLDEN PIPPIN.—Proposed by Mr. Carpenter. One of the finest apples we have. There being so many "Golden Pip-

pins" it was referred to the Committee on Synonymes. We hope this question of "Golden Pippins" will now be definitely settled. It has been all confusion.

RED POLISH.—Presented by Mr. Stone of Mass., who said the flavor was pleasant, the tree a great bearer, and the fruit susceptible of taking a high polish; a good market apple. It did not appear to be generally known.

The discussion on apples ended here.

PEARS.

BRIALMONT.—Proposed by Mr. Baker of Massachusetts, who called it one of the finest pears, coming just before the Lawrence; remarkably hardy, clean, and does not crack. Mr. Bergen of Long Island, said it was a pear of great merit, and commanded a price equal to the Bartlett.

PATER NOSTER.—Mr. Ellwanger, considered it a fine, large, elegant pear, ripening in January; yellow, with red cheek. The President concurred with Mr. Ellwanger.

JACKSON.—Mr. Reid proposed the Jackson, which was then in eating, and he thought a great deal of it. Mr. Worcester of Vermont said it had a high reputation there.

BELLE WILLIAMS.—Proposed by Mr. Ellwanger; a fine large, elegant pear, ripening in January, of fair size. Tree vigorous, and hardy; received from England. It appeared to be very little known.

BEURRE KONING.—Proposed by Mr. Reid, who thought it superior to Duchesse; a green pear, ripe in October. The President said it was a very sugary, rich pear. Very little known.

HEGERMAN.—Proposed by Mr. Prince; originated on Long Island; larger than the Seckel, like it, and ripens a week or so before it. Very productive and bears fruit early.

DE TONGRES.—Mr. Bucklin of Massachusetts proposed this variety, which he said was a large russet pear, of great beauty, and keeps three weeks. Messrs. Carpenter, Reid and others, thought highly of it. Mr. Earle said the trees on the pear stock were difficult to remove. No pear had a higher commendation.

MAUXION.—Was proposed by Mr. Reid, who said it was Bergamot shaped, rather below medium size and quality; one of the best of its season. All of which Mr. Ellwanger and the President endorsed.

UWCHLAN.—A fine early pear, resembles the Bloodgood, and ripening at same time; larger and better; was proposed by Mr. Ellwanger. Dr. James of Pennsylvania approved of it; but Dr. Houghton of Pennsylvania said it did not bear a very good character.

PRINCE'S ST. GERMAIN.—Proposed by Mr. Prince, whose father originated it fifty years ago; it was one of the best winter pears. The President and Messrs. Houghton and Thomas, thought it excellent and valuable.

HOSSEN SHENCK.—The same as Moore's, or Moore's Pound. Mr. Reid said it should be added to the list. It was very promising. Mr. Smith of Syracuse said it was a good pear and good growing tree. Dr. Houghton and Mr. Ellwanger did not think it high flavored. There seems to be some confusion regarding the true Hossen Shenck; but the variety here discussed was the Moore's Pound.

LYCURGUS.—Mr. Chambers of New York said it was a small russet pear, very rich and sweet, nearly equal to the Seckel. Keeps all winter—say till April. The President concurred. Mr. Elliot of Washington had known it many years; was a good bearer, and kept till March.

RUTTER.—Proposed by Dr. Houghton, who said it was a seedling raised by John Rutter of West Chester. Is high flavored, sugary, juicy, somewhat vinous. Generally unknown.

CONSEILLEUR DE LA COUR.—Was proposed by the President, as a very vigorous, healthy tree, bearing large sized green fruit, keeping till late in autumn, and pronounced to be a compeer with the Beurre d'Anjou. Messrs. Earle and Ide said it was difficult to fruit it. All commended it as a very vigorous grower.

HENKEL.—Proposed by S. B. Parsons, Long Island. Mr. Reid said we had no pear superior to it, and he doubted whether there was one superior to it. It is the same as the

Cumberland of Belgium, as has been before stated in our pages.

DUCHESSÉ HELENE D'ORLEANS. The President said it looked very much like *Beurre Bosc*, ripening in October. A large russet pear, about on a par with *Beurre Clairgeau*. Mr. Earle thought it was a very good pear, said to succeed only on the pear stock.

EMILE D'HEYST.—Mr. Ellwanger said it did well in New York. The President thought it would prove one of our best winter pears; an enormous bearer. Requires thinning to get good crops.

MARIE LOUISE.—Mr. Carpenter thought this one of the best pears in his collection; remarkably large, beautiful and fine; a valuable acquisition. Messrs. Bucklin, Cummings and Ide, considered it a superior fruit. Ellwanger and Smith of New York said it was not good with them; and Moore of Rhode Island said he did not think much of it. Mr. Earle thought it one of the best pears we had; bearing so abundantly that the crop is variable.

ISLAND.—A seedling from Long Island. Mr. Bergen said it was an excellent pear, but not large or beautiful.

KIRTLAND.—Proposed by Mr. Bergen as a pear nearly first rate.

BEURRE GAMBIE.—Proposed by the President. A large fine pear, resembling the *Easter Beurre*, but distinct. It is very fine, promises well, and keeps till late in autumn.

CORNELIS.—Another variety recommended by the President, of first size, very handsome, and Waxon looking; flesh, white as snow, and very sugary. Ripe in September. Tree very vigorous.

TRIOMPHE DE JODOIGNE.—Called up by Mr. Chambers, who considered it a very valuable autumn pear, the specimens weighing over a pound. The President said it grew better on the pear than on quince. Messrs. Reid and Houghton said it was a straggling grower and the fruit variable.

DOYENNE DU COMICE.—Proposed by Mr. Earle; and commended by all as very fine, and keeping in good condition to December. Grows on pear and quince, but the fruit blows off early.

KINGSESSING.—Dr. Houghton said it had been grown in Philadelphia as large as the Duchess, and remarkably fine. All commended it as a very fine, large, late autumn pair. Mr. Earle thought it was one of those pears which should not be allowed to hang too long on the tree, as it loses its qualities. We have found this to be the case.

PRATT.—Mr. Moore of Rhode Island thought it was the best pear in that State; and the President thought it one of the finest in cultivation. Mr. Reid also commended it as superior. It does not grow on the quince.

SHELDON.—Mr. Barry thought this one of the finest of all pears. Approved by all who spoke of it, throughout Massachusetts, New York and Ohio. Dr. Ide said the early specimens ripened in a close box. We might add that it should not be allowed to hang too long on the tree.

STERLING.—Mr. Barry said this was recommended in three localities, and his opinion was that it was a handsome fruit, that would sell well in market, but likely to become mealy. The general opinion was the same, viz., that it was handsome, but of ordinary quality—second or third rate. It should be picked early.

JOSEPHINE DE MALINES.—Mr. Barry said it was improving every year. Mr. Reid said the quality was good, but the tree not vigorous. Others had found the same objection. It is believed the trees want age to get good fruit.

BEURRE COIT.—Messrs. Elliott and Downing thought it a rich and promising pear.

FULTON.—Highly commended by all; and said by Mr. Elliott to be better in the West than here, which we think is an error. We scarcely want a better pear of its season.

HOWELL.—Mr. Barry thought this a valuable pear, more marketable than Flemish Beauty, a great grower, and an immense bearer both on pear and quince. Thomas had the same opinion of it. And the President said it was one of the handsomest pears he had.

JAMINETIE.—This old pear seemed to have many advocates. That it is occasionally good there is no doubt, but it cannot be depended upon, often being hard and rough and wanting character. Mr. Ellwanger recommended it. Messrs.

Earle and Reid said it cracked, and the President said he never could see much flavor in it. All considered it a very vigorous and hardy tree, and when old, bearing well.

LAWRENCE.—Mr. Earle said he never saw a specimen fail to ripen even if it was not bigger than your finger. Mr. Barry said he had, and it was agreed that the specimens should be large and fine to show their real quality.

OSWEGO BEURRE.—Mr. Smith thought it very good. Messrs. Thomas and Bergen considered it poor; Mr. Lyon's experience was favorable; he thought it very good. We ought to remark that the Oswego Beurre is a superior pear, but the trees want age, and the fruit should be thinned.

MERRIAM.—Apparently but little known out of Massachusetts. The President said it was a great bearer and should be gathered by the middle of September.

BEURRE HARDY.—The President in answer to a question as to its quality compared with the Merriam, said it was different; did not keep well, but the quality the best.

MCLAUGHLIN.—Mr. Carpenter was much pleased with it; keeping into winter. The President concurred, as did also Messrs. Barry and Downing.

The discussion on cherries and peaches elicited nothing very new, and our space being limited we pass on to the

GRAPES.

MAXATAWNY.—Mr. Reid thought it one of the best white grapes he ever tasted. Dr. James said it was a grape they were proud of in Pennsylvania. It is a bronze color when ripe. Mr. Hooker said it was a most admirable berry. It is hardy, but its maturity in the latitude of Boston doubtful.

LOGAN.—Mr. Bergen of Long Island had tried it; the bunches were not large, and the berries not disposed to set well on the bunch; about as early as Hartford Prolific. Mr. Goodale of Maine said it had succeeded very well with him; had two old vines; did not ripen well last year, for the first time. Mr. Reid stated that it was apt to rot in his grounds; the bunch small and berry small. It was a pleasant, sharp grape, and he liked it. Mr. Risley of Connecticut said it was a week later than the Hartford Prolific.

HARTFORD PROLIFIC.—Mr. Bergen said it did well with him, promising well for an early grape; he thought it would prove a profitable grape for market. The general testimony was in its favor. Mr. Reid said he had nothing so early; and that it did not drop from the bunch if gathered early. Mr. Bourne of Rhode Island stated that it had the fault of falling to the ground as soon as mature, if not before. Mr. Hooker said it did well in his locality, was ripe before the Delaware and a fortnight before the Concord.

ALLEN'S HYBRID.—Very little appeared to be positively known about it. Mr. Hyde of Massachusetts thought it a good grape and resisted the mildew better than almost any other. He doubted about its being a hybrid, as did Mr. Reid.

CUYAHOGA.—Mr. Elliott stated that he did not think it would mature early enough for our climate; three years out of five it had not ripened where it originated. It was a strong grower.

MOTTLED.—Already well described in our pages. Unknown, except to Mr. Elliott, who said it was claimed as ripening with the Delaware.

DELAWARE.—Mr. Bergen said he had the Hartford Prolific, Delaware, Concord and Isabella, on the same trellis, and he found the Delaware a little rusty, while the Hartford Prolific and Concord were free. Mr. Frost of New York said the Delaware was more productive than the Concord. Mr. Martin stated that the vines were as vigorous as he wished to grow. The President said that if grafted into an old vine the shoots were strong, but that gentlemen would agree with him that it was not a strong vine. Mr. Reid said there is no doubt it is a weak grower; the Concord would grow as much in two years as the Delaware in four; the mildew attacks it almost immediately after it is put out. J. M. Earle said it mildewed badly and the vines winter-killed. Mr. Hooker did not hesitate to give it an unqualified recommendation as far as Rochester was concerned. All agreed the fruit was good.

NORTHERN MUSCADINE.—Mr. Smith of New York said with him it did finely. Mr. Hyde took up his vines and gave them

away, glad to get rid of them so. Adams of Maine said he got two kinds; one admirable grape, the other worthless.

REBECCA.—Mr. Prince said it was nothing but a seedling of White Chasselas. Regarded by Mr. Elliott as one of the best in Ohio. Hovey thought it the best grape in the United States. The President said he saw a vine at Salem which afforded him great pleasure. It had a quantity of grapes, perfectly free from mildew, and ripe on Sept. 22. Mr. Reid considered it superior to all the white grapes, except Maxatawny. Mildews some when young, and perfectly hardy when well established.

CREVELLING.—Prince said it was the best grape we have, a large purple grape. Mr. Hyde tasted it with the Hartford Prolific, and it was far superior. It never drops. Mr. Hooker said it was a free grower, and uncommonly hardy. It deserved a good trial; first quality as to flavor. Mr. Elliott said in Ohio it was one of the best early grapes. Downing was much pleased with it.

UNION VILLAGE.—Mr. Hovey thought it a fine grape, worthy of cultivation; also that the Ontario was the same thing as Union Village. Mr. Prince agreed with Mr. Hovey, as did Mr. Downing. Hooker was undecided. Messrs. Reid and Elliott did not consider it a desirable grape.

TOKALON—Mr. Prince liked it very much. Mr. Lyon of Michigan said it did well with him. Messrs. Downing and Risley stated that it mildewed badly and dropped. The President had given it up. The Wyman and Carter were identical.

PERKINS.—Thought by Mr. Hovey to be a fair grape. Hyde did not like it. Mr. Prince said it was a beautiful grape but only second quality. Downing and Barry thought it about as good as Northern Muscadine.

ROGERS'S HYBRIDS.—But little known positively about them; several were vigorous growers and promised well. Mr. Ives said the earliest grape was No. 3; the most thrifty, No. 15; No. 4, and No. 22, the highest flavor. He preferred No. 15 to No. 4.

DIANA.—Mr. Hooker did not feel ready to endorse all that had been said in praise of this grape; there were so many

objections to it that he could not say we shall ever find the Diana a really good grape for general cultivation. Mr. Parsons concurred with Mr. Hooker, as did Mr. Reid; it was a fine fruit when in perfection, but difficult to get.

OPORTO.—Mr. Prince said it was very austere, and would make wine; so would any of the fox grapes. Mr. Lyon said it was hardy enough, but he could not say much for its qualities as a table grape.

BRACKETT'S SEEDLING.—Too little known. It is a seedling of Union Village, large and fine.

ADIRONDACK.—Also quite new; specimens were presented by Mr. J. W. Bailey of Plattsburg, N. Y. Described by the Committee as large, handsome, and promising well.

The discussion on strawberries and the smaller fruits was continued, but we have exceeded our space already. Nothing especially new was elicited, but we shall endeavor to notice the discussion about strawberries in our next number.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

ON THE EFFECTS OF DIFFERENT KINDS OF STOCKS IN GRAFTING.

BY T. A. KNIGHT.

THE remarks of Mr. Knight on this subject, as long ago as 1816, prove that the points of controversy stood then in very nearly the same relative position as now; and that cultivators of the present day, when discussing this subject, do but little more than repeat Mr. Knight's observations on the same side. He thinks he has made and seen the result of more experiments during the last thirty-five years, than any other person, and presents the following conclusions which he has deduced from them:—

Whenever the stock and graft, or bud, are not perfectly well suited to each other, an enlargement is well known always to take place at the point of their junction, and generally to some extent both above and below it. This is very evident in

peach trees which have been grafted at any considerable height from the ground on plum stocks; and it appears to arise from obstruction which the descending sap of the peach tree meets with in the bark of the plum stock. The same effects it is well known may be produced by a ligature, or by girdling a branch. The disposition in young trees to produce and nourish blossom buds and fruit, is increased by this apparent obstruction of the descending sap; and the fruit of such young trees, he thinks, ripens somewhat earlier than upon other young trees of the same age growing upon stocks of their own species. But the growth and vigor of the tree, and its power to nourish a succession of heavy crops are diminished, apparently, by the stagnation in the branches and stock of a portion of that sap which in a tree growing upon its own stem, or upon a stock of its own species, would descend to nourish and multiply the roots. The practice, therefore, of grafting the pear tree on the quince stock, and the peach and apricot on the plum, if extensive growth and durability are wanted, is wrong; it is eligible only for purposes of premature bearing.

Many cultivators believe that the stock communicates a portion of its own power to bear cold, without injury to the species, or variety of fruit which is grafted upon it. He considers this opinion as wholly erroneous, and that this kind of hardiness in the root can never be a quality of any value in a stock; for the branches of every species of tree are much more easily destroyed by frost than its roots. Many also believe that a peach tree, when grafted upon its native stock, very soon perishes; but his experience did not further support this conclusion, than that it proves seedling peach trees, when growing in a very rich soil, to be greatly injured and often killed, by the excessive use of the pruning knife upon its branches, when these are confined to too narrow limits. The stock can in this instance, he thinks, only act injuriously by supplying more nutriment than can be expended; for the root which nature gives to each seedling plant must be well, if not best calculated to support it. He concludes, therefore, that the stock of a species or a genus, different from that of the fruit to be grafted upon it, can rarely be used with advan-

tage, unless when the object of the cultivator is to restrain and debilitate.—Vol. II., p. 199.

ON THE CONSTRUCTION OF STRAWBERRY BEDS. BY W. ATKINSON.
SEPT. 1822.

The following is a description of a method of making strawberry beds, which the writer had seen attended with great success in a small garden.

The beds were upon flat ground, each about three feet wide, and between them were trenches about nine inches wide, and four inch walls of brick on each side of the trenches, to keep up the earth on the sides of the beds. These trenches were about the depth of two or three courses of bricks laid flat, without mortar, and were intended for the purpose of holding water, which was supplied from a pump, whenever the ground was dry, while the plants were in fruit. By this method a much greater crop of fruit was obtained and the plants continued bearing much longer than in beds where there were no trenches for water. According to this plan, a considerable quantity of strawberry ground is watered with very little labor, and it has the advantage of letting the water to the roots of the plants, so as to keep the ground moist without hardening the surface, as is the case when the tops of the beds are watered with pots.

A gentleman in Devonshire was in the habit of constructing strawberry beds, which he called strawberry walls, against the side of a hill or a bank, by building up beds in steps, with rough granite in front to keep up the earth, each step being about two feet high and three wide. These steps were filled with good loam, and the surface covered with rough pieces of granite bedded into the loam, leaving openings between the stones for the plants.

ON GRAFTING VINES. BY JOHN BRADDICK. FEB. 1822.

The writer, after giving a detailed account of a series of experiments on vine grafting, arrived at the following conclusions. He states that healthy vines may be successfully grafted, with young wood of the preceding year's growth, from the time that the shoots of the stocks, into which the grafts

are to be inserted, have made four or five eyes, until midsummer. In this case there is every prospect that the grafts will grow, and no danger that the stocks will suffer from bleeding.

They may likewise be grafted with shoots of the same summer's growth, worked into the rind of the young wood, from the time that the young branches of grapes become visible on the stocks till July, out of doors; or until a month later under glass. The operation must not be performed later than the periods here specified, because time is necessary for the young shoots of the grafts to become hard and ripen before winter.

ON THE CULTIVATION OF THE ENGLISH CRANBERRY IN DRY BEDS.

BY THOMAS MILNE. JAN. 1823.

As the English cranberry is considered only a variety of the species to which the American cranberry belongs, the remarks of this writer may not be unprofitable. The writer says, that on the last season, one of the driest and hottest he remembers, he observed that his cranberry plants continued as vigorous as in the preceding season which was very wet, and that the fruit ripened a month earlier. As the produce was gathered at different times, to gratify the curiosity of visitors, he could not say exactly how much fruit was produced on a given space, but he thinks it was not less than one quart on a bed five feet square, and he thinks it may be increased when the beds are older. The beds alluded to were made in the same way, in every respect, as for rhododendrons, azaleas, andromedas, and other American plants.

The subsoil, over which the bed was made, was a sandy gravel, therefore not retentive of moisture, which is against the successful cultivation of this plant on dry beds; but where the soil is naturally moist or damp, with a free air, advantage might be taken of it, and the English cranberry might be cultivated in it with success. On a bed in a similar situation, and of the same kind of soil, the American cranberry grows most luxuriantly. One very strong argument which he urges for the cultivation of the cranberry is, that it may be made to grow with little trouble in places and on soils, where few other useful plants will grow to advantage. He says, however, that the American cranberry would be the easiest to

manage, and most productive for general use, though many prefer the flavor of the English species.

SOME REMARKS ON THE SUPPOSED INFLUENCE OF THE POLLEN, IN CROSS BREEDING, UPON THE COLORS OF THE SEED COATS OF PLANTS, AND THE QUALITIES OF THEIR FRUITS. BY T. A. KNIGHT, PRESIDENT. JUNE 1823.

The seed coats, or membranes which cover the cotyledons of the seeds of plants, with the receptacles which contain such seed coats, are visible some time before the blossoms acquire their full growth; and the existence of these organs is, therefore, obviously independent of the influence of the pollen upon the growth of the internal and essential parts of the future seeds. The seed coats also, and the fruit of some species of plants, acquire nearly, if not wholly, their perfect growth when the pollen has been entirely withheld, or when from other causes, it has not operated; hence it has been inferred, that neither the external cover of the seeds, nor the form, taste, or flavor of fruits are affected by the influence of the pollen of a plant of a different variety or species.

The numerous varieties and permanent habits of the pea, its annual life, and the distinct character in form, size, and color of many of its varieties, induced Mr. Knight to select it for the purpose of ascertaining by a long course of experiments, the effects of introducing the pollen of one variety, into the prepared blossoms of another. His chief object was to obtain such information as would enable him to calculate the probable effects of similar operations upon other species of plants. He found, in his experiments, that when the pollen of a gray pea was introduced into the prepared blossoms of a white variety, no change whatever took place in the form, or color, or size of the seeds; all were white, and externally quite similar to others which had been produced by the unmutated blossoms of the same plant. But these, when sown the following year, uniformly afforded plants with colored leaves and stems and purple flowers, and these produced gray peas only. When the stamens of the plants that sprang from such gray peas were extracted, and the pollen of a white variety of permanent habits was introduced, the seeds pro-

duced were uniformly gray; but many of these afforded plants with perfectly green leaves and stems, and with white flowers, succeeded of course by white seed. In these experiments, the cotyledons of all the varieties of peas employed or produced were yellow; and consequently the peas with white seed coats retained their ordinary color, though they contained the plumules and cotyledons of colored pea plants. He consequently concludes, that neither the color of the seed coats, nor the form, taste, or flavor of fruits, are ever affected by the immediate influence of the pollen of a plant of another variety or species.

A FEW MORE WORDS ON PEACHES IN POTS.

BY JOHN FALCONER.

HAVING in a previous article promised to say a few words about peach trees, while young, not bearing as abundantly as potatoes, I will with your sanction resume. It is quite evident to anybody who has had any experience with any kind of fruit tree, that it must first make its wood, then its fruit spurs or its fruit buds, or its annual wood—as in the vine—each according to its kind and nature, before it can be expected to bear; and it is the development of these to their highest perfection that constitutes the great difference between the ordinary cultivator and the thorough practical man. Peach trees must be grown properly to bear well. A contributor has complained of the non-bearing of a portion of his trees, and also states that other cultivators have obtained but little desirable fruit the past two years.

What, therefore, it may be asked, has been the cause of this failure? If I may express my opinion I should attribute the want of success to improper cultivation; for growing and fruiting the peach is as simple to the observing and experienced culturist as any other branch of gardening; it is not to be wondered that failures occur with many amateurs; on the contrary it is more wonderful that they succeed so well as they do.

As regards the quality of peaches I agree with Mr. Rivers, who is quoted as saying, that the finest flavored peaches can be ripened under glass; I say so too. I have grown and ripened them (and have also eaten them) both in this country and in that cloudy foggy England. I have grown them even in the far North (in stern and wild old Scotland) which were equal, if not superior to any I have grown in the open air. The late Col. T. H. Perkins of Brookline, I remember well, had excellent peaches when his houses were under the charge of Mr. Cowan, and the peaches grown by my respected father, for the late Earl of Kellie, who had the same trees under his care for more than fifty years, were as good fruit as anybody could desire; and I have no doubt that the successful orchard-house cultivator will have as good in time if he perseveres. Yet there are many little things which go to make up a truly successful grower which require long observation and experience to attain.

There are many drawbacks to success in growing peaches under glass, with the trees planted in the ground. In the first place the houses should be properly constructed; the soil properly selected, and the situation good; three most important points, each of which have a great deal to do with success. In planting permanent trees, proper soil, proper training, proper all things, are necessary, and in so far as each and all of these are wanting, just so far will high perfection in flavor, size, and quality be lacking, and vice versa.

It is simply incorrect, I think, to say that peaches cannot be high flavored under glass as well as out of doors, and I cannot believe the standard of taste as regards flavor is lower in England than it is here; why should it be so? Cannot grapes and other fruits be grown and flavored there as well as here?

Submitting these few reflections regarding peach culture generally, I now continue my remarks about the peach trees under my care, with a few words about a neighbor who has a regular orchard-house under his charge, and who had some of the largest specimens of fruit at the Massachusetts Horticultural Society, in July and September last, probably ever exhibited there.

To commence with my friend and his modicum of success. He has a good house sixty by twenty feet, span-roofed, five feet sides, and about fifteen feet high at the ridge, heated by a small sixteen dollar Myers' boiler, with a flue and return pipe on one side, and the brick flue to carry off the smoke passing along the other. This house is devoted exclusively to peaches, apricots, figs, &c. A regular heated orchard-house; or I should call it a climatic fruit house; for is it not a structure for giving a proper climate to its contents? Is the word climatic proper Mr. Editor? He has from fifty to sixty trees in this house; the centre row is in the soil, whence they are taken up and the roots docked every fall or early winter, to keep their heads within bounds. These trees are eight years old; I had them under my care for four years, and grown in tubs all that time. They were well furnished with fruit spurs natural, as well as fruit producing wood artificial; they stood ten to twelve feet high. My friend bought them to furnish his house quickly, so as to make a good show the first season. They were planted in the winter of 1862, began flowering in April, and set their fruit finely; being planted in the natural soil, a sandy loam over gravel, they had no manure; they grew very well, not over rank, but having been so long cramped in tubs you could almost see them growing, and showing by their beautiful foliage their deliverance from bondage. The fruit set well and many hundreds had to be taken off—thinned—to give the others a chance; those left grew and swelled off finely, surpassingly large, some of them 12 to 14 inches in circumference. The sorts, Late and Early Crawford, George Fourth, and Stump the World. The two first and last not favorites of mine for flavor, but to the eye of the greedy size lover, bouncers. George the Fourth, first class for flavor; size, big enough.

On each side of the centre row, which is meant to fill the house ultimately, are two rows in pots, whilst another row stands between the flue on one side and the hot water pipe on the other. These are started, set and swelled in the house, then set out of doors to ripen and flavor. His success last year was very good, plenty of fruit as to quantity, whilst the quality was not in all cases perfect. I attribute the lack of

quality in very many cases to leaving too many on the tree. It is a miserable greedy feature of our nature, that we too often kill the goose who lays the golden egg. My friend has the prospect this year of excelling himself, as his trees indicate health, vigor, and fruitfulness.

As regards my first started trees I will only say they are set very well, both peaches and nectarines, and for trees two years potted I have no reason to complain. I however see many drawbacks in them to my ideal of a peach or nectarine tree grown in a pot, which time and care will doubtless mend. In a future article I will enter more fully into the details of pruning, pinching, disbudding, and other manipulations which I follow, should you think favorably.

POMOLOGICAL GOSSIP.

KEEPING LATE PEARS.—W. L. Schaffer, Esq., exhibited before the Pennsylvania Horticultural Society, February 10, very fine specimens of the Glout Morceau and Winter Nelis pears. The fruit was as fresh as when gathered from the tree. Mr. Schaffer states that the pears were placed upon the ground under the trees, and heavily covered with leaves, over which was thrown a piece of old bagging, and thus protected from the frost were all perfectly preserved. Some he had ripened in a warm room were delicious. If Winter Nelis, which hereabouts, says the Gardeners' Monthly, is usually "done for" about Christmas, can be thus kept so easily till the middle of February, and other varieties in proportion, a new field opens itself for the profitable production of that most uncertain of all Pomona's fickle children the "Winter Pear." Although our cultivators find no trouble whatever in having an abundance of the finest specimens of the "fickle" winter pear, as late as February by ordinary methods of keeping, it may be well to make a trial of Mr. Schaffer's method to test its actual merits.

BEST SIX APPLES IN EASTERN PENNSYLVANIA.—The Fruit Growers Society of Eastern Pennsylvania, held its annual session

at Harrisburg, on the 4th, 5th, and 6th of February last. There was a large attendance, and interesting discussions took place upon various fruits. One of the important questions was the selection of the best six apples suited to that region. The result was as follows:—

Baldwin, Fallawater, Smith's Cider, Red Astrachan, Hubbardston Nonsuch, and Porter.

Other apples were considered equally good, but on the whole these have proved reliable and furnish a guide to the novice. It is pleasant to find our old favorite New England apples, the Baldwin, Porter, and Hubbardston Nonsuch among the number; as we have always contended they possessed a combination of excellences hard to beat. After so much discussion in regard to certain fruits being best adapted to their native locality, it is satisfactory to know that over so wide a range of territory, from Maine to Eastern Pennsylvania, a majority of the above sorts have been recommended by other societies as the best varieties.

GRAPES IN EASTERN PENNSYLVANIA.—At the same meeting the grape question, as usual, was a very animated one. The year had not made much difference in the experience of members, except that the Elsinburgh was one of the best for late keeping, and superior in many respects to hosts of the new ones. Rogers No. 1, No. 15, Crevelling, and others, had numerous advocates, and one gentleman expressed a partiality for the Northern Muscadine. Mr. Knox thought the Delaware too sweet for a regular table grape, but one of the best for wine.

The Hartford Prolific most members thought indispensable for being a few days earlier than Concord, but worthless after that good sort came in. Concord, in fact, was the great grape of the Convention. It is indeed surprising that a grape that *has been so villified* and very much abused, should have fought its way so successfully to popular eminence so soon. These remarks are from a report in the Gardeners' Monthly.

The vote on grapes was heavy and was as follows:—

Concord,	-	-	25	Rebecca,	-	-	9
Delaware,	-	-	23	Isabella,	-	-	8
Elsinburgh,	-	-	12	Catawba,	-	-	8

Hartford Prolific,	-	5	Cassady,	*	-	-	3
Crevelling,	-	-	Alvey,	-	-	-	2
Diana,	-	-	Clinton,	-	-	-	2

GRAPES IN NEW YORK.—At a late meeting of the principal fruit growers in the vicinity of New York, the grape question was fully discussed, and the almost unanimous opinion was that the *Delaware, Concord, and Hartford Prolific* grapes, are the best three varieties now grown. The Delaware was placed at the head of the list as to *flavor*, while the Concord was considered the best for general cultivation—the best of all known varieties. That will do for the Concord; so states the Rural American from which we copy, the report alluded to not having been received.

R O S E S .

BY MR. WILLIAM PAUL, NURSERIES, WALTHAM CROSS.

AMONG the many rose cultivators of eminence around London, few if any, hold a higher rank than Mr. Paul, whose work on roses is familiar to some of our readers, and whose collection is one of the largest and best. As an exhibitor at the London shows he has been very successful, and carried off many of the highest honors. It will be gratifying, therefore, to many of our readers, and especially to those who still consider the rose the “Queen of Flowers,” to hear what he has to say in regard to the cultivation, the selection and the general treatment of this beautiful flower. For notwithstanding his published work may be obtained, it will not be likely to fall into the hands of most of our readers, who will appreciate what he now has to say, after some additional experience upon the growth of this favorite flower.

Mr. Paul has commenced a series of articles in the Gardeners' Chronicle, which will comprise the general information needed by amateur cultivators of the rose. Each class will be briefly described, the most popular varieties noticed and the necessary treatment of each detailed; and as the management of the hardy kinds differs but little in the cli-

mate of England from that of our own, we commend his remarks to the attention of all cultivators, assured they will gain therefrom information which will materially enhance the value of their collections.

It is refreshing to hear Mr. Paul commence with so important a question about the Summer roses. We have so many times advocated the great claims of this class in our pages, that we need not say we are delighted to find our opinion so well sustained; for when everybody seemed half crazy to get a few hybrid perpetuals, and would hardly look at the Summer roses, we began to fear lest they should be neglected altogether.

We appreciate fully the magnificence of many of the Hybrid Perpetuals, and have chronicled their many attractions and good qualities. But at the same time we must confess they do not supply the place of the Summer roses. We like flowers in masses, a grand display, a magnificent effect. We wish a full enjoyment of the same. This we have in the pæonies, the azaleas, the rhododendrons, the lilies, and the Summer roses. Let these several flowers be scattered sparsely over the entire summer, rather than in masses for a few weeks each, and beautiful as they are they would at once cease to hold the place they now so proudly maintain. Mr. Paul has rightly expressed our own idea, when he says that for "gorgeousness of effect" no Perpetuals equal the Summer roses, and that if these flowers were counted the summer through, he doubts not the balance would be in favor of the latter. Without them June would cease to be the "rosy" month which we yearly look to for so much beauty and delight.

Besides, in our rough winters, the Perpetuals have not yet acquired hardiness enough to resist their severe effects. Many of the most beautiful are cut down by the cold unless protected or covered with earth, a work easily done, but often forgotten or neglected, and the result is a scanty display of flowers. No doubt in time, we may have a selection of very hardy and free flowering varieties, but there is danger in obtaining the latter, that the former quality may not accompany it. At any rate, as we now know the Hybrid Perpetuals,

we should not rely upon them for effect, but only to supply us with occasional blossoms, with which from their large size, fine form, brilliant colors, and delightful odor, we should be fully content and feel ourselves well repaid. The Summer roses must still be *the* roses for the million. What indeed, could be better than Madame Hardy, Shakspeare, Crested, Amiable, Old Moss, and many others?—ED.

SUMMER ROSES.—Can we dispense with Summer Roses? This is a question which we think admits of an emphatic “No.” The Autumnals are undoubtedly invaluable—among them the Hybrid Perpetuals furnish us with flowers of perfect form and exquisite colors, and yield a succession of bloom that prolongs the gay season of the garden to the very verge of winter; the Bourbon, Chinese, and Tea-scented flower still more abundantly in the latter months of the year, and are consequently even more valuable in those gardens which are visited by their proprietors in the autumnal months only; but for gorgeousness of effect none of these equal the Summer roses. The flowers, which with the Autumnals are spread over a lengthened period, are with the former, concentrated on a point of time; and if they were counted, flower for flower, throughout the season, we doubt whether the balance would not remain in favor of Summer roses. It would appear then to be a matter of choice whether we receive the boon at once or by instalments; and certain it is that the garden is stripped of its gayest scenes and some of its brightest ornaments, if we altogether exclude the roses of June. Such is my conviction, and following it I shall venture to enumerate the principal Summer groups, describing a few of the most desirable varieties from each.

The **BOURSAULT** contains one variety, *Amadis*, which must not be lost sight of. It is one of the hardiest, thriving alike in shade and sunshine, and growing in the least favorable soils and situations. It is most valuable as a pillar and climbing rose, producing myriads of crimson purple flowers on shoots utterly devoid of thorns. It requires very little pruning.

The **SCOTCH ROSE** is valuable because it blooms so abundantly, and often a month earlier than other Summer roses. Planted

singly it forms the prettiest dwarf bushes imaginable; it also makes an excellent low hedge, The flowers are small and globular, principally white, red, blush, and purple—but there are intermediate shades—and very sweet; they resemble each other too closely to need describing. The plant will flourish on the shallowest of soils, and may be pruned closely every winter.

The DAMASK, formerly an important group, may now be brought down to three or four varieties. La Ville de Bruxelles is a full sized rose of free growth, with beautiful light green foliage; the flowers are salmon-rose margined with blush. Leda, or Painted Damask, is in its best form worthy of a place in every garden; the flowers are blush edged with lake, exceedingly pretty and distinct. Where care is not taken to preserve the marked form it is apt to degenerate and lose the lake margin, when, as a wholly white flower, it is comparatively worthless. Madame Hardy is still the best of white Summer roses, and cannot be too highly praised. For form, purity of color, hardihood, and freedom of growth and flowering, it is still unrivalled. It makes a beautiful bed on a lawn, and as such, where quantity of flowers is required, should not be too closely pruned. Madame Soetmans is a creamy white, sometimes shaded with buff; a large full flower, of excellent properties, and in its best state quite a show rose. All these require moderately close pruning, and will grow in any common garden soil.

The PROVENCE ROSE includes the Cabbage, the Crested, and the White, none of which can yet be spared. The first and last are too well known to require description; the Crested is similar to the Cabbage, except that the sepals are beautifully fringed with moss. The globular form is in perfection here, and the fragrance of these roses is proverbial. A sub-section of this group, known as the Miniature Provence or Pompon, is also highly interesting on account of its dwarf growth and tiny flowers. These delight most in a rich soil, and should be subjected to close pruning.

The MOSS ROSE will always rank high where grace and beauty are fairly appreciated. Baronne de Wassenaer is a vigorous growing sort, producing clusters of bright red flow-

ers, of good size and globular form ; it must not be pruned much. Captain Ingram is distinct and handsome, the flowers are dark velvety purple, almost black. Celina, now an old favorite, is not yet surpassed in its way ; the growth is compact, the flowers are of the richest crimson shaded with purple, well mossed and produced in gorgeous abundance. This makes an excellent bed, and should be pruned closely. The Old or Common Red Moss remains a model of beauty ; the hybridizer has varied this group exceedingly, but never yet produced any sort to surpass the original. Indeed the best varieties of true Moss roses have been derived from sports rather than from seed. Clemence Beaugrand is a beautiful bright pink rose with large double flowers ; the growth is vigorous. Comtesse Murinais is a large double almost white rose, not equal to the White Bath in form or purity, but it grows freely everywhere, which the latter does not. Gloire des Mosseuses is of first-rate excellence ; the flowers are blush, very large, full, less globular than the original sort, but well mossed. Gracilis or Prolific resembles the old variety very closely, but is of dwarfer growth, and flowers more profusely ; it forms a beautiful bed of about the same rate of growth as Celina. Marie de Blois produces rosy lilac flowers of good shape and size, and is above the average in merit. Nuits de Young bears velvety purple flowers, very dark and very double. Princess Alice, a variety raised from seed by me some 10 or 12 years since, is, I find, still quoted and commended in four out of five of the rose catalogues that I have looked into ; the flowers are blush with pink centres, something in the way of the Maiden's Blush ; the buds are well mossed. Princess Royal, for form and color, is one of the gems of this group ; the flowers are salmon-flesh, not over large ; the growth is hardly vigorous, but both growth and flowers are improved by close pruning. Purpurea rubra is a good, free, hardy sort, with large full purple flowers. Reine Blanche is a large, full, pure white rose of perfect outline, but rather flat ; it grows as freely as Madame Hardy, and has some points of resemblance to that variety. White Bath, the best of the white Moss roses where it thrives well, is unfortunately capricious, which detracts much from its value. Every

garden should have a bed or beds of Moss roses, either on their own roots or budded close to the ground. Manure highly, prune closely, and they will yield a rich harvest of the sweetest and most beautiful flowers.

The FRENCH and its hybrids, once the leading group of the genus, has been depreciated more than any other by the improvements of modern times. It must not, however, be yet laid aside. The varieties grow freely in any common garden soil, and produce fine masses of highly fragrant flowers in the summer time. The colors are varied and beautiful, the growth compact, and the plants require close pruning. Adèle Prevost is a pretty silvery blush rose, of good form and flowers very freely. Boula de Nantenil is a superior crimson purple variety, with fiery centre, still one of the best of very dark summer roses. Cynthia produces pale rose-colored flowers, delicately margined with blush, and is also a free-flowering sort. Duchess of Buccleuch is a large, bold, dark, rose-colored flower, with blush margin, a little coarse but still a show rose. Grandissima, or Louis Philippe as it is also called, is a good purplish rose-colored variety. Kean is by no means a bad show rose; the flowers are rich velvety purple dashed with scarlet, large and full. Œillet parfait produces pure white flowers, broadly striped with rosy crimson; the flowers are not large, but they are neatly formed; the growth is not vigorous, but is improved by close pruning. Taken altogether, this is one of the best of striped roses. Blanche fleur deserves a word of special commendation; it is hardly a show rose, but its white flesh-tinted flowers are produced in such gay profusion that scarcely any rose of its color is so effective. La Volupté, or Letitia, is still a show rose, of a bright rose-color, the petals exquisitely arranged. Some of the French roses are beautiful in color and outline, and the petals are admirably disposed. Their fault as show roses is that they have a papery appearance, owing to the delicate texture of the petals, and they fall out of shape too soon after gathered.

The HYBRIDS of the CHINESE, BOURBON and NOISETTE are the glory of the rose garden in summer, and many of them are excellent show roses also. Hardy and free, they are alike suited for pots, pillars, or standards. Some should be pruned

very little, others moderately, few close. If those of strong growth be cut much they grow too vigorously and are scant of flowers. Blairii No. 2 cannot be too highly commended as a wall rose where a great height or breadth is required to be covered quickly. The growth is extraordinarily rapid, and the foliage and flowers fine; the latter are of a blush pink, very large and double. Prune sparingly. Charles Duval, although an old rose, is still a good one; the flowers are deep pink, large and full; the foliage is handsome. Charles Lawson is a first-rate pot rose, and good either as a standard or pillar; the flowers are vivid rose-color, large and full—quite a show rose. Chénédolé is a beautiful rose, with flowers of a light vivid crimson; the growth is very vigorous, and it is equally good as a pot, pillar, or standard rose. It should be pruned very little. Coupe d'Hébé is one of the gems of this group, and hardly surpassed by any other rose; the flowers are of a rich deep pink, exquisitely cupped, large and very double. Like the preceding it is good as a pot, pillar, or standard rose, but should be pruned tolerably close. General Jacqueminot produces flowers of a rich purplish crimson, which are glowing and effective on the tree or pillar, but hardly suited to figure at the exhibitions. Juno as a pot rose is of matchless beauty, and is good out of doors in fair weather; but unfortunately the flowers, which are rose edged with blush, are quickly soiled by rain or wind. This variety which partakes somewhat of the group Alba, should be pruned closely. Madame Plantier is one of those profuse blooming roses admirably adapted for bedding; the flowers are white, produced in clusters, individually below the average in size. Madeline is desirable for its distinctness; the flowers are flesh-color edged with crimson, not over large, but quite full and very beautiful. Paul Perras is a very superior pot rose, growing to the largest size as such; the flowers are of a pale rose color, large, full, and fine. Paul Ricaut is a bright crimson flower, large, full of glowing color, and exquisite form; most valuable as a pot rose, but good also as a dwarf or standard. It should be pruned rather closely. Perfection is a peach colored flower, not large, but distinct, and perfect in form. Vivid, one of my first seedlings, now ranking among the old

varieties, is still unequalled as a brilliant colored standard, wall, or pillar rose ; the flowers are of the richest crimson, and so abundant that no rose in the garden can compare with it for effect. It requires very little pruning.

The roses of the ALBA group, of which the Maiden's Blush and the Celestial may be taken as the types, are still valuable for their delicate colors and distinctness. *Félicité* and *La Séduisante*, both flesh-colored roses, with blush margins, are the best. Then there are *Madame Audot*, flesh-color ; *Madame Legras*, white ; and *Queen of Denmark*, pink, which are not surpassed in their way. *Sophie de Marsilly* is a fair-weather rose, exquisitely beautiful when first opening if lucky enough to escape the rain and wind ; the flowers are blush, with rosy centres, large and full. Common soil and moderate pruning suits these roses, which are valuable in the garden, but not large enough for show roses.

The AUSTRIAN section contains the only hardy yellow roses that are worthy of general cultivation, and these flourish best in country air ; *Harrisoni*, a yellow variety of American origin, produces almost double flowers in magnificent profusion. It is best grown as a weeping rose, and pruned once in two years only. The *Persian Yellow* has flowers of a deeper hue, and more double than the preceding ; the young leaves have the fragrance of the *Sweet Briar*. The *Copper Austrian*, although single, is so rich and distinct in color that every one should possess it. All these are valuable.

The AYRSHIRE are most appropriate for covering banks, running up trees, poles, and high buildings ; the growth is slender but very rapid ; they form the best of weeping roses. *Dundee Rambler*, *Ruga*, *Splendens*, and *Thoresbyana*, all white or nearly white varieties, are the best.

The EVERGREEN roses are not unlike the last, except that they hold their leaves through a great part of the winter ; they are suited for the same purposes, and require but little pruning, *Félicité Perpetué*, *Leopoldine d'Orleans*, and *Rampante*, which are the best, produce white flowers ; *Banksiæ-flora*, whose flowers are white with creamy centres, is pretty and distinct ; *Myrianthes Rénoncule*, flowers blush, shaded with rose, is also interesting and useful.

The BANKSIAN ROSES form a most distinct and beautiful group, wholly unlike any others, and are well worthy of more extended cultivation. The flowers are very small, double, and exquisitely formed; they are produced in clusters, and those of the white variety are very sweet. To grow them in perfection they should be planted as conservatory climbers; or if grown out of doors, are best trained against a south wall in a soil that is dry and warm. *If left unpruned* for two or three years, merely nailing the shoots to the wall, they will bloom in perfection.

FLORICULTURAL NOTICES.

BUCHANAN'S BLOTCHED PETUNIAS.—The introduction of the foreign varieties, Inimitable and Madame Jacotot, have been the means of greatly improving the petunia. Mr. Buchanan of New York, selecting from the above kinds and reserving only the most distinct flowers, has succeeded in raising several very beautiful varieties, so that we are now happily in the way of supplying the demand for novelties from our own gardens. These seedlings, though in the style of the originals, display a very great variation in the spottings and markings which are bold and clear, or broad and distinct. The single petunias still carry the palm for abundant bloom, though individually some of the double sorts are exceedingly large and showy; a bed of the parti-colored varieties forms a beautiful and charming display of tints; and the seedlings now under notice, appear to possess excellent qualities.

NOVELTIES OF THE YEAR 1862.—The Gardeners' Chronicle in noticing the acquisitions of the year, thus refers to some of the most prominent, which are well worthy of a place in our collections:—

The foremost place must undoubtedly be given to *Lilium auratum*, the gold-banded lily of Japan, of which somewhat different forms have been produced. The gorgeous blossoms of this hardy or all but hardy lily—which seemed to find its way into everybody's note-book, formed one of the most

telling features of the summer shows. We observe that effigies of its blossoms, not badly modelled, have already appeared amongst the treasures of the artificial flower shops. As to the plant itself, price alone must determine how soon it is to become "everybody's" flower. Another decided acquisition amongst hardy flowers is the *Ourisia coccinea* from Chili, a perfectly hardy herbaceous perennial, with leaves like a *Heuchera*, and scarlet flowers like those of *Pentstemon*, which cannot be other than a desirable introduction. The Japanese *Polygonatum oppositifolium albo-lineatum* is another charming perennial, with its rubicund stems, and beautifully white-striped leaves. The best annuals have been the West Australian *Rhodanthes*—*maculata* and *atro-sanguinea*, two perfectly distinct and very elegant "Everlastings," the former of which will probably be the greater favorite of the two.

Amongst hardy shrubs we must give the first place to *Lonicera brachypoda aureo-reticulata*, a beautiful Japanese honeysuckle, introduced by Mr. Fortune. It is a free-growing climber, having the leaves distinctly netted over with golden veins. Another fine thing is Mr. Anderson Henry's *Clematis reginæ*, a breed from *lanuginosa*, which being of garden origin ought strictly to have come into our former notice. It is a valuable acquisition, producing very large full-formed flowers of a light mauve purple. Amongst the Japanese importations have appeared several very distinct and desirable Maples (*Acer*), some with variegated, some with finely dissected leaves, and all of them remarkable for their elegance. The *Aucubas* have been augmented by two particularly handsome variegated forms—*limbata* and *picturata*, in one of which the border of the leaf, and in the other the centre is yellow, the rest of the surface being green. Besides the variegated forms of *Osmanthus*, *ilicifolius*, which appeared in 1861, there has been added a dwarf variety called *variegatus manus*, in which the leaves are effectively and prettily variegated with dark and light shades of green, quite unlike the ordinary white and yellow markings of variegated plants. A beautiful dwarf-habited conifer, with

something the aspect of a tree lycopod, called *Thujopsis lætevirens*, has also appeared in Japanese collections.

The best greenhouse flowering plant of the year, in our estimation, is the white-flowered *lapageria*, not indeed now known for the first time, but we believe not previously bloomed in England, and therefore unknown to English cultivators generally. Of this we need only say, that it is a fitting companion of the better known crimson *lapageria*, with wax-like flowers of extreme delicacy. Another remarkably fine plant in this category is *Swainsona violacea*. It is more vigorous in habit than the rest of its family, and produces very long racemes of large deep mauve-purple blossoms, the keel portion of which is curiously convolute. *Sarmienta repens*, a dwarf herbaceous Chilian creeping gesnera, with scarlet *Mitraria*-like flowers, will be a very useful basket plant for greenhouses; and another Chilian subject, *Calceolaria ericoides*, a most distinct looking thing amongst Slipperworts, is likely to be an excellent autumn-blooming decorative plant for the conservatory. We have also seen a nicely variegated form of the plant called *Ophiopogon Jaburan*, which is a very neat and good looking dwarfish perennial, and forms a nice tuft in the greenhouse, though probably more hardy. The red-veined *Ficus Cooperi*, from Australia, is another greenhouse plant desirable in its way.

Several very choice greenhouse ferns have been introduced, the most striking and valuable of which are *Polystichum concavum* from Japan, which is likely to prove one of the polystichoid *Lastreas*, and *Lomaria gibba* from the Australasian regions. The first has spreading light green, much divided fronds, remarkable for the concave upper surface of the ultimate divisions; the latter is of palm-like habit, with fine arching pinnatifid fronds, the divisions broader in those which are sterile, after the fashion of other *Lomarias*. To these may be also added *Adiantum chilense* and *A. sulphureum*, the latter of which is styled Golden Maidenhair, on the strength of a dusting of yellow powder on the lower surface of its fronds; but though this feature is not so marked here as in the well-known Golden gymnogrammas, *A. sulphureum*

as well as its congener, chilense, is an extremely welcome addition to our garden collections of ferns.

The most notable amongst stove plants with ornamental flowers stands *Clerodendron Thomsonæ*, from Calabar, a slender climbing shrub, in whose blossoms the calyx is enlarged and colored white, while the protruding corolla is crimson. Foliage plants requiring stove heat have been more numerous. *Sphærogynë latifolia* is one of the grandest to be set down to the year's account. It is a companion plant for *Cyanophyllum magnificum*, and perhaps in some points superior to that noble subject. Two very telling Arads have been brought out, namely, *Caladium Lowii*, with bronzy leaves, which have the appearance of being half-way between *Alocasia metallica* and *Caladium Veitchii*; and *Alocasia zebрина*, which, though green-leaved, is remarkable for the curious ornamental variegation of its erect leaf-stalks. These *Alocasias* and *Caladiums*, by the way, are apt in gardens to be named at random, and we do not know that either of the two we have now mentioned under the names they bear have been critically determined. *Musa vittata* has been largely exhibited in the early part of the year, and proves scarcely equal to what was expected of it, though it is not improbable that excessive propagation and strong forcing may have deteriorated it, and that when better established and less stimulated it may improve. The Royal Horticultural Society has obtained from its collector in Brazil a pretty dwarf melastomaceous herb, whose leaves are dotted over with pearl-like white spots; this, which is called *Bertolonia margaritacea*, will be worth cultivating.

The most remarkable stove fern is *Litobrochia nobilis*. This is like a giant *L. palmata*, the great lobed fronds measuring upwards of a foot across the lamina; it is a noble plant. *Cibotium princeps* is another good fern, but has not been produced in a mature state. *Adiantum Féci* (the *A. flexuosum* of Hooker) remarkable for its semi-climbing habit, and for the dense velvety pile on its zigzag rachis—a feature unknown in other Maidenhairs, has also attracted attention; and finally one or two persons have brought out the charming little

Asplenium myriophyllum, raised by Linden, and distributed under the false name of *A. flabellulatum*.

This very hasty sketch will be sufficient to show that the acquisitions of 1862, which have not been few, have at the same time not been unimportant.

673. STANHOPEA ORNATISSIMA *Ch. Lem.* ORNAMENTAL STANHOPEA. (Orchidaceæ.) Peru.

A stove orchid; with yellow spotted flowers. *Ill. Hort.*, 1832, pl. 325.

A very beautiful species, considered among English writers a variety of *oculata*, but which M. Lemaire believes to be a distinct plant. It is certainly one of the strongest and vigorous growing of the beautiful tribe of Stanhopeas. (*Ill. Hort.* June.)

674. RHODODENDRON SOUVENIR DE JEAN BYLS. Garden Hybrid.

A hardy (?) shrub, with crimson flowers, spotted with yellow. *Ill. Hort.*, 1862, pl. 326.

This is another of the acquisitions of M. Jean Byls, who has devoted years to the improvement of this grand shrub, and who has enriched our gardens with numerous distinct varieties. The present variety has large clusters of bright rosy crimson and soft rose flowers, blueish towards the centre, richly spotted with golden yellow, and dotted with circumflex accents of pale brown; a remarkable combination of tints. It is perfectly hardy in Belgium. (*Ill. Hort.*, June.)

675. HELICONA AURANTIACA *Hort.* ORANGE-COLORED HELICONA. (Musaceæ.) Mexico.

A hothouse plant; growing six feet high; with orange-colored flowers; appearing in spring; increased by division of the roots; grown in rich light soil. *Ill. Hort.*, 1832, pl. 332.

A handsome plant, with large deep-green leaves and yellowish flowers, surrounded with orange-colored bracts, which render it highly ornamental. Its principal attractions are, however, its large and beautiful foliage, and the elegance of its habit. It flowers freely every year. (*Ill. Hort.*, July.)

676. RHODODENDRON VERSCHAFFELTII. Garden Hybrid.

A hardy variety; with white spotted flowers. *Ill. Hort.*, 1852, pl. 333.

A most beautiful rhododendron, produced by M. Verschaffelt, and quite hardy in Belgium, where it has stood,

unharméd, the severity of the winter of 1861 and '62. The ground color is white, slightly tinted with lilac, and spotted with black purple, in bold and circumflex-shaped dots, with a band of rose through the centre. The individual flowers are large, and the bouquets of blossoms are enormous, and have an effect truly marvellous. The foliage is ample, and the variety is a distinct and splendid acquisition. (*Ill. Hort.*, July.)

677. ROSE L'ENFANT TROUVE.

A new Tea Rose. *Ill. Hort.*, 1862, pl. 334.

A new variety, remarkable for the size of the flower, the abundance of its petals, its beautiful form, and its yellowish saffron-color, slightly tinted with orange in the centre. It was introduced to notice by Mr. Cant of Colchester, England, and is, we believe, an English seedling. It will prove a rich addition to the class of Tea Roses. (*Ill. Hort.*, July.)

TAGETES SIGNATA PUMILA.

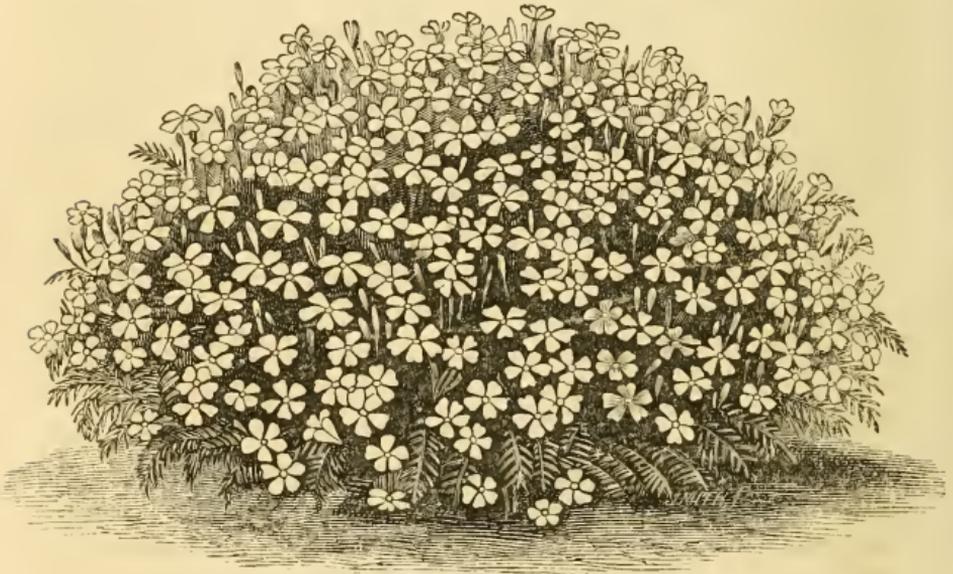
BY THE EDITOR.

AMONG the new annuals introduced every year there are a few which appear to possess much merit. Of the great number which have filled the Catalogues for three or four years, that have been pompously described and designated as "novelties," unfortunately they have, the larger part of them, been "novel," only for their inferiority—mere rubbish—not worthy a place in the flower garden. This certainly is an objection to the wholesale introduction of everything that is offered; and the only compensation for so much that is useless is the occasional acquisition of really splendid plants, such, for instance, as the Double Zinnias, Double Clarkia, Heddeewiggi pink, Rodanthe maculata, *Oenothera Lamarkiana*, &c. These are truly plants of merit, which are attractive, individually, and effective as ornaments of every garden.

Few cultivators have done more to introduce such really beautiful plants than the late M. Vilmorin of Paris, whose

attempts at the production of new plants by selection and hybridization are familiar to all who are conversant with floricultural progress. Many varieties of our finest annuals might be named which have originated with them, and which form prominent features of every flower garden.

The present year the successors of M. Vilmorin have introduced a new variety of *Tagetes* (marygold) which they produced from the *T. signata*, and which they have designated as *T. signata pumila*, from its dwarf, compact and branchy habit, as will be seen from our engraving, (FIG. 9.) It is described as follows:—



9. *TAGETES SIGNATA PUMILA.*

“This new variety, which we have obtained from the seedlings of the *Tagetes signata*, differs from the latter in its dwarf stem, its habit, and the abundance of its blossoms. It forms a very compact tuft, a sort of tufted bush, 30 to 35 centimetres high (12 inches) and 50 to 60 in diameter (2 feet) and is literally covered with drooping flowers throughout the summer season, that is to say, from June until the approach of frost. Its flowers, about an inch in diameter, are of a bright yellow, shaded and striped with orange at the base of each petal. The foliage is of a bright green, very deeply cut, which adds to the elegance and beauty of the plant.

This variety is one of the most desirable for masses ; several roots sufficing to form a basket. For borders, or for beds, it is to be highly recommended. It also produces a good effect with other plants of bright colors, such as geranium Tom Thumb, or similar varieties.

Its culture is very simple. Sow in the open ground, in rows, in April or May, in a light rich soil, and transplant to the border, or flower garden.

This description, with the illustration, will convey a good idea of the character of this new annual, which we anticipate will prove an attractive and highly effective plant.

Gossip of the Month.

CATALOGUES RECEIVED.—Ellwanger & Barry's Descriptive Catalogue of Ornamental Trees and Shrubs, Roses, Flowering Plants, &c. No. 2. 1863.

Spring Catalogue of New Plants, Dahlias, Verbenas, Petunias, Fuchsias, Roses, Chrysanthemums, &c., grown and for sale by Peter Henderson, Wayne Street, Jersey City, N. J., and 67 Nassau St., New York. 1863.

B. K. Bliss's Spring Catalogue, and Amateur's Guide to the Kitchen and Flower Garden, &c., cultivated and for sale by Benjamin K. Bliss, Springfield, Mass. 1863.

Washburn & Curtis's Catalogue of Flower and Vegetable Seeds, cultivated and for sale by Washburn & Curtis, Harrison Square, Dorchester, Mass.

Ninth Annual Catalogue of choice Verbenas, Dahlias, Roses, Geraniums, Fuchsias, &c., &c., for sale by Dexter Snow, Chicopee, Mass. 1863.

A Descriptive Catalogue of a choice collection of Bedding, Greenhouse, and Stove Plants, Bulbs, &c., cultivated and for sale at the Fishkill Landing, N. Y., Nursery, by Daniel Brinckeroff & Co. 1863.

Descriptive Catalogue of Fruit Trees, Small Fruits, Grape Vines, Rhubarb, Asparagus, &c., cultivated and for sale at the Cherry Hill Nurseries, West Chester, Pa., Hoopes & Brother, Proprietors. No. 1. 1863.

Supplementary Catalogue of the Ornamental Department. No. 2. 1863.

Genesee Valley Nurseries, Rochester, N. Y., Frost & Co's Wholesale Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Bulbs, &c. For Spring of 1863.

Descriptive Catalogue of Fruit Trees, Plants, and Vines, cultivated and for sale at the Old Castle Nurseries, Geneva, Ontario County, N. Y., by T. C. Maxwell & Brothers. No. 1. 1863.

Descriptive Catalogue of Ornamental Trees and Shrubs, Roses, Bedding and Border Plants, Bulbs, &c. No. 2. T. C. Maxwell & Brothers.

Obituary.

DEATH OF GRANT THORBURN.—We record the death of Mr. Thorburn at New Haven, Conn., on the 21st of January, at the advanced age of 91. The name of Mr. Thorburn is familiar to all who know anything of the horticultural progress of the 19th century. He was the pioneer in the seed and plant business in New York city, and from the smallest beginning, by his industry and shrewdness, established a large and flourishing trade, to which he was succeeded by his children and grand-children. The old church in Liberty Street, was at one period the resort of all who looked for anything new and beautiful in plants or seeds. He was a native of Scotland, and came to this country in his twentieth year. Fond of writing, he published many years ago, a small volume giving a particular account of his life, which was full of anecdote, and the work was read with much interest. He was rather eccentric, yet withal an earnest and benevolent man, and a kind friend and honored citizen.

DEATH OF NICHOLAS LONGWORTH, Esq.—We record with regret the death of another of the old horticulturists, Mr. Longworth, which took place at Cincinnati, on the 11th of February, in his 81st year.

Mr. Longworth was well known throughout the country for the deep interest he has taken in the introduction of grape culture for the manufacture of wine, and for his continued enthusiasm in strawberry growing. To the readers of our earlier volumes his name is very familiar, for he was a frequent correspondent, and contributed many articles during the strawberry controversy, which was for a long period continued in our pages. For many years during his visits East he did not omit to call upon us, and we revert with satisfaction to the many conversations with him upon his favorite topics of grapes and strawberries.

Mr. Longworth's early history is well known. He went West a poor boy, earning his living by his trade—afterwards obtained employment in a law office—and subsequently rose to the bar in Cincinnati, and thus laid the foundation of his great fortune, receiving as compensation for services "worthless lands," which have since become the most valuable in the Queen City.

At an early period he became deeply interested in the culture of the grape, for the purpose of wine making, believing as he did that this country could and should be independent of foreign wines. How actively he worked and with what success is well known. His sparkling Catawba and Isabella, have had many advocates for their superiority, and their production now that foreign wines are so expensive, is likely to give employment to a large amount of capital and labor.

But the strawberry was Mr. Longworth's hobby, claiming as he did that he was the first to make generally known the sexual character of the plant; and though occasionally giving currency to some erroneous views connected with the question, there is no doubt the active part he took has tended at least, to make better known, the peculiar characteristics of the strawberry, with which French botanists, many American cultivators, and some few English writers had previously been familiar.

Mr. Longworth took a deep interest in gardening generally. He had a fine collection of plants, and was one of the few who flowered the famous Water Lily (*Victoria Regia*.) He made frequent contributions to the Cincinnati Horticultural Society, and aided in establishing that association upon a firm foundation. No doubt Dr. Warder, or some other member familiar with his services, will furnish a more complete sketch of his horticultural labors.

Massachusetts Horticultural Society.

January 3, 1863.—The proceedings of this meeting, part of which were given in our February number, were as follows:—

An amendment of the By-Laws was proposed, striking out January and inserting February, as the time for the Committee for establishing Premiums to report.

Mr. Breck, from the Committee on publishing a history of the proceedings of the Society, reported progress.

Dr. Jacob Bigelow, on behalf of the Trustees of Mt. Auburn, reported a plan for filling up and ornamenting a piece of bog land and erecting a fountain near Thistle Path, on condition that the Society's interest in the lots should be released. The President, Hon. M. P. Wilder, and H. W. Fuller, were chosen a Committee to examine the ground, with full power to complete any arrangements with the Trustees.

Mr. Stickney, from the Finance Committee, submitted the report for 1862, as follows:—

RECEIPTS FOR 1862.

By cash in the Treasury, Dec. 31, 1861, - - -	\$836 75
“ dividends from stocks, - - -	1,534 15
“ assessments collected, - - -	670 00
“ receipts from Mount Auburn, - - -	3,661 35
“ rents collected, - - -	230 83
“ receipts from Annual Exhibition, - - -	673 50
“ interest from H. D. Parker's note, - - -	3,600 00
“ miscellaneous, - - -	79 90
	\$11,286 48

PAYMENTS FOR 1862.

To cash paid in Premiums and Gratuities,	-	-	2,144 00
“ salaries \$650, Committees \$200,	-	-	850 00
“ Rev. Mr. Farnham \$200, Dr. Wight \$200,	-	-	400 00
“ rents, - - - - -	-	-	1,550 00
“ expenses Annual Exhibition, -	-	-	1,344 89
“ library, - - - - -	-	-	410 26
“ printing and advertising, -	-	-	528 44
“ mechanics’ and miscellaneous bills, -	-	-	497 48
“ U. S. Bond 7 3-10 interest, (new investment),	-	-	1,000 00
“ cash in treasury, Dec. 31, 1812, - - -	-	-	2,561 41
			\$11,286 48

The Society’s property is valued at \$92,625 91, and it has available for building a new Hall \$87,625 91.

The Committee on the procuring a site for a new Hall made a report, which after discussion was referred back, to be presented at the adjourned meeting.

Adjourned two weeks to Jan. 17.

Horticultural Operations

FOR APRIL.

FRUIT DEPARTMENT.

THE severe weather of March, has greatly retarded the usual garden operations of the month. The cold was of longer duration than in either January or February, and the snow was from one to two feet deep. From present appearances the frost will not leave the ground until several warm days in April.

GRAPE VINES in the early houses will have their crop mature, and the house should now be kept rather dry and well aired to preserve the fruit in good order. No particular care will be requisite beside this till the fruit is gathered. Grape vines in the greenhouse and grapery are later than usual, and are just now opening their flowers. Tie in the laterals as they proceed in growth, being careful if they do not bend easily to give a loose tie, and draw it closer in a few days. Discontinue syringing while in bloom, and keep the house rather dry, with a slightly increased temperature until the fruit is set. Vines in cold houses should now be uncovered and tied loosely up to the rafters; syringing when the weather is good, keeping only a moderate temperature, until danger of frosty nights is over. Hardy vines should be uncovered and pruned, if not done last fall.

PEACH TREES, in pots, now swelling their fruit, should have larger supplies of water as the season advances. Attend to pinching in the laterals

as they may require it. Re-pot young stock and plant fresh trees if more are wanted.

GRAPE VINES, in pots, now swelling their fruit should be liberally supplied with water and liquid manure occasionally. Pinch off all straggling laterals. Young vines for a fresh stock may be potted now.

ORCHARD HOUSES will now begin to require attention, airing abundantly while the trees are in flower, and watering freely; look out for insects and destroy them before they have injured the trees.

PRUNING may be continued all the month.

STRAWBERRY BEDS should be uncovered, the ground cleaned and put in order as soon as the weather will admit. Prepare ground for new beds next month.

RASPBERRIES should be uncovered.

FRUIT TREES of all kinds should be transplanted.

GRAFTING may be done now, beginning with the cherries.

FLOWER DEPARTMENT.

The weather since February has been severe for all forcing houses, causing heavy frosts to counteract the intense cold, just at a time when they should be exempt from them. Milder weather should be improved to harden off the tender growth made during this period. Cold frames and hot-beds have required unusual care to keep the plants in a safe and healthy condition. Inure them gradually to the hot sun of April.

PELARGONIUMS will now begin to bloom, and by the last of the month will be pretty well advanced to a flowering stage. Turn the plants round often, and give the shoots a fresh tie, drawing them quite down to the edge of the pots if possible; thin out such as are too crowded. Water more liberally as the plants increase in size, and keep them as near the glass as possible, with a circulation of air around each specimen. Young stock for later bloom should be re-potted.

AZALEAS under ordinary management will now be in full bloom, and will require some shade from the hot sun to preserve their beauty; water more freely, and keep the house rather damper, but do not syringe the plants. Plants kept in a cool place and now brought into the house will bloom all May. Syringe freely till the buds begin to show color, and water more liberally. Plants done flowering, and young stock may be re-potted.

CAMELLIAS will now have nearly completed their blooming, and will begin to make young wood; commence now to syringe more freely than heretofore; doing this in the afternoon, and closing up the house to retain a genial moist temperature, in which the plants delight at this season. Continue to pot such as really need it, leaving others till July.

CINERARIAS will now be in perfection, and if well managed are highly effective at this season. Fumigate often to keep down the green fly, and water more liberally.

SEEDS of various annuals, and other plants raised last month, should be potted off and placed on a shelf near the glass, or removed to hotbeds or cold frames, hardening them gradually to the open air.

CHRYSANTHEMUMS may be propagated, and early struck cuttings potted off.

MONTHLY CARNATIONS for next winter's blooming, should be now propagated by cuttings or layers.

CANNAS may now be divided and re-potted for early planting out in the border.

TUBEROSES AND TIGER FLOWERS should be potted in light soil, and started in the greenhouse or an exhausted hotbed.

HEATHS AND EPACRIS should now be headed in and have the protection of a frame, till the time of planting out or re-potting.

CALLAS for bedding out in pots or in the ground, should now be re-potted.

ASTERS, STOCKS, and other Hardy Annuals may now be forwarded by planting the seeds in an old hotbed, in boxes, or pots.

ROSES in small pots, now shifted, will make fine plants for bedding out in the flower garden.

PLANTS of many kinds will now require heading in and re-potting, before they commence making their new growth.

FLOWER GARDEN AND SHRUBBERY.

With April the labors of this department commence. As soon as the ground is sufficiently dry, the walks should all be lightly raked and rolled, and the lawns cleaned and well rolled also; the borders and shrubbery should be cleaned of leaves and rubbish, and everything be made to wear a cheerful aspect, as much of the beauty and comfort of a country residence depends on this. If planting is to be done, proceed with it as soon as the weather will admit, unless for evergreen trees, which may be attended to later in the season.

TULIPS AND LILIES should be uncovered as soon as the danger of severe frosts is over, and the surface of the ground stirred and cleaned.

HERBACEOUS PLANTS should be uncovered, and the borders raked and made neat, as many of the earlier sorts will soon be in bloom.

GLADIOLUS may be planted the last of the month, preparing the ground beforehand.

TREE PÆONIES should be pruned, cutting away all the small and useless shoots, encouraging only such as are strong and well set with flower buds.

VINES AND CREEPERS should be neatly tied up, cutting away all crowded shoots.

CARNATIONS AND PINKS, in frames, should now have any covering removed, in order to inure them to the weather. Prepare ground for transplanting early in May.

DAISIES wintered in frames may soon be removed to the borders.

DAHLIAS for early blooming may be started in the house or an old hotbed. They will be stronger and flower in good season.

ROSES should be pruned in good season, cutting well back, to produce a free growth of young healthy wood; for want of proper pruning, roses are much inferior in size and beauty. Manure the ground heavily, and set out young plants.

FRUIT CULTURE IN MASSACHUSETTS.

THAT Massachusetts, and especially the vicinity of Boston, holds a high position in fruit culture we need not assert. It is admitted on all hands. The timely collections made here, beginning with those of the late John Lowell and Robert Manning, gave an early impetus to fruit culture, which has been kept up by amateurs as well as nurserymen, until it has obtained a position at least equal, if not superior, to that of any other part of the country. The proceedings and discussions of the American Pomological Society well illustrate the influence of Massachusetts pomologists, and the exhibitions of the Massachusetts Horticultural Society have brought out collections of fruit which have not been equalled in the United States, and we hardly think even in France or Belgium, if the accounts we have of late exhibitions convey any correct impression of their extent. Indeed, so far as regards the superior cultivation of the pear, and the extent of our collections of new and superior varieties, as well as the production of seedlings, our cultivators may claim a preëminence of which they may feel proud.

It may appear a repetition of much that has been written in our pages during nearly thirty years, to refer again to the subject, for almost annually, ourselves or some of our excellent correspondents have recorded the progress of fruit culture in Massachusetts, so that it may be easily traced by all who take an interest in this important subject; it is satisfactory to have so complete a record, no where else to be obtained, and enthusiastic cultivators can refer to it with pleasure, and contrast the state of pomology thirty years ago with its present advanced condition. It will not be difficult to discover how much has been accomplished and how decisive the results.

It has been our good fortune during this long period to have the aid of the most enthusiastic pomologists of Massachusetts, and especially of those who have been most active in the introduction and fruiting of new varieties. The late

Mr. Manning contributed his entire experience, extending over a quarter of a century, during which time he had proved hundreds of pears, including many of the unnamed seedlings of Van Mons. All of these worthy of notice he described in our early volumes; and a continuation of this valuable information has been furnished by the Hon. J. S. Cabot, whose general information regarding fruits, and excellent judgment in discerning their superior qualities, are so well known and appreciated by all who have read his frequent contributions to our pages; as Chairman of the Fruit Committee of the Massachusetts Horticultural Society, which place he has so ably filled for several years, he has, with the exception of one season, during his absence abroad, presented an annual report upon the state of fruit culture in the vicinity of Boston. The time and labor necessary to the preparation of such a report have prevented him from furnishing us the usual summary of previous years, and as the reports of the Society are published, all the information which he has brought together has been laid before the Society, and has been available to the public through our horticultural journals. The length, however, of these reports, and the crowded state of our pages, has prevented us from publishing them in full, and we therefore embrace a favorable opportunity to lay before our readers several extracts from the report for 1862, which is unusually interesting, and gives in a brief manner the present condition of fruit culture in Massachusetts.

To the cultivators of the pear and grape, two fruits which Mr. Cabot has given much attention, his remarks will be highly interesting. Having spent a year in visiting the English and Continental gardens and most extensive nurseries, and become familiar with the modes of culture and the effects of climate, he reviews the subject with great care, and shows some of the obstacles which American cultivators have to contend with in the growth of these fruits; at the same time offering such suggestions as will enable us to overcome them and achieve satisfactory results.

It is gratifying to know that, enthusiast as Mr. Cabot is in the culture of trees, he is not one of those who believe superior fruits can be raised without great care and attention.

The old phrase of "will it pay," does not enter his mind. He has higher objects in view—the introduction of superior varieties, and the production of superior specimens. He does not believe this to be so profitable as many have stated—and indeed, this is not a subject of consideration with the intelligent pomologist—the end being the growth of the very finest fruits.

Directing the attention of cultivators to his report, we subjoin the following extracts without further comment:—

FRUITS AND THEIR CULTURE.

It is not perhaps always easy to trace back to causes from effects, but as it is believed that many of the inconveniences and losses to which fruit growers are subject are the results of climate, of too much or too little heat, of too much or too little moisture, or of the sudden and great transitions from one of these conditions to its opposite, the particular features of each year are worthy of notice and of record, that possibly from such observations, and by comparing the peculiarities of one year, and the results of that year with those of other years, the cause of injury may be deduced, and ingenuity may discover some means to obviate the effects of such cause. Of the causes of some effects we are yet in ignorance and probably may always remain so, or if not, great difference of opinion prevails as to what such should be attributed. As for instance, the high color that, on some years or in some particular place, fruit attains, beyond what it does in other years or in other situations. Bartlett pears, as bright in color as any that was ever seen on a *Roi de Wirtemberg*, were on the tables at the last Annual Exhibition; to what cause can their bright red be attributed? In their replies to this question, cultivators, if they attempted to suggest any cause, would probably differ, while an acknowledgment of ignorance in regard to it would perhaps be the wisest and safest course.

For the great and unusual development, as respects size, to which some specimens on a tree sometimes attain, while the rest of the crop on the same tree are no ways remarkable in this particular, or for the great size of the fruit of some one variety, or of all the varieties grown in some particular situa-

tion, it might not always be easy to give a reason in which all would coincide, or to assign a cause that would always be followed by like results. This excess in size beyond what is usual, may perhaps be the result of some special mode of cultivation, of the application in a greater or less degree of some particular fertilizing agent to the soil, to the presence of some particular mineral or chemical ingredient therein, to thinning the fruit or other causes, yet it sometimes occurs when no particular pains have been taken, and fails to take place whatever efforts have been made to produce it. When it takes place, it is probably because something has occurred, either of a temporary or more permanent character, to stimulate absorption by the fruit, and what that is, is not always to be ascertained. The moistening of the green fruit by some chemical solution calculated to effect this purpose, has been suggested to bring about this result. As to what is the cause of the high color that sometimes occurs in fruit, though it contributes to its beauty, is not perhaps a matter of so much consequence, and if it could be ascertained would very likely be found to be beyond control; and even to know from what this unusual, sometimes enormous development in size results, may not be considered of great importance; yet there are effects, some of an injurious character often noticed, of which it is highly desirable to ascertain with certainty the cause, and so haply obtain a remedy therefor.

Cultivators of fruit in this part of the United States are subject to inconveniences and difficulties, from which growers in Europe seem in a great measure exempt; pears being there more uniformly smooth and fair, and not liable to crack and blight as some varieties are apt to do in this country. The climate of Europe being more equal in temperature, and more uniform in respect to moisture than our own—for though subject to sudden alternations of temperature yet there the range of the mercury is much less than here—and although the rain fall of Europe is much less than in this vicinity, yet the fall of rain being more equally distributed there, is an exemption alike from the severe droughts and rains of almost tropical violence, to which all parts of the United States are more or less subject; to this greater uni-

formity of temperature and moisture, the freedom from cracking and blight of pears and their greater smoothness and fairness have been attributed, especially as the same results seem to follow like causes in our own country. Take the past season as an instance, when the summer was if not cool yet free from any excessive heat of long continuance, and marked by copious rains, much more uniformly temperate and moist than usual, and fruit was much more smooth and fair than common, and pears very generally exempt from blight or cracking. If the supposition is correct, that the difficulties to the fruit grower, referred to, may be imputed to, at times, too much or too little rain, and to too great alternations from heat to cold or cold to heat, it behooves cultivators to endeavor by some processes of cultivation to remedy the evils growing out of these causes, and to try thereby to obviate their effects. And cultivators have this assurance, that if a mistake has been committed in imputing certain specified effects to certain causes, and the efforts adopted under this erroneous impression should fail to obviate the evil, yet the processes that would most probably be adopted for this purpose would have a generally very beneficial effect upon their trees, upon their health and vigor, though such might fail in the object intended; underground draining, to carry off superfluous water and prevent its stagnating about the roots, and at the same time by draining the land rendering it more permeable and subject to be more thoroughly operated upon by atmospheric influences, and in this way tending to correct the evil arising from too much or too little rain, is one of the processes that most likely would be recommended and adopted to remedy the evil as above, supposed to grow out of some of the peculiarities of our climate. But should it fail in the object aimed at, should pears still continue to blight and crack, yet it is not to be doubted that the draining of the ground would have a highly beneficial effect upon the growth, the vigor, and health of the trees, remunerating the outlay by the general amelioration of the soil. Indeed, underground draining, one of the processes strongly urged as of great importance in preparing land for growing fruit trees, by those who are considered as authority upon the

subject of their cultivation, is being more and more generally practised, and is one of those processes of husbandry that, indispensable under some conditions, has been recommended as always exercising a beneficial influence under any circumstances. Mulching, or covering the ground where fruit is cultivated with litter, straw, or leaves, is another expedient that probably would be resorted to, to obviate the inequalities of climate and remedy the evils alluded to. And this too, it is believed, though it should fail in the results aimed at, would not fail to exercise a beneficial influence. The protecting the roots of trees in winter, by even a slight covering, is useful, and in some soils even absolutely necessary, not so much to guard against severe cold, though even in that respect it probably is of some efficacy, as to prevent the heaving of the trees, by successive thawings and freezings of the ground, and in summer is useful to guard against the effects of intense heat or drought.

ORCHARD-HOUSES.

The forced cultivation of fruit, in greenhouses or orchard-houses, cannot be expected to become very extensively or generally practised in this vicinity, for the reason that it cannot be made to pay; but must remain confined to amateurs in gardening, and to such as wish in this way to obtain a luxury for their own enjoyment. Some fine examples of this kind of culture, as applied more particularly to grapes and peaches, have been exhibited the past season, and the displays of it generally would compare favorably with those of past years. Orchard-houses are coming somewhat generally into use in England, where, as they can be constructed cheaply, and require no fire heat, they may perhaps be found remunerative, or at least not involving any very great expenditure of money, and where, too, in order to obtain fine fruit of any kind, some artificial means must be resorted to, to overcome the inclemency of the climate of most parts of the island; but in this country, as they would require to be more strongly built, and need a heating apparatus, they must be more costly, and as in common seasons most of the finer fruits attain perfection without any assistance, the necessity for them does not

exist. Still, this is a very interesting branch of culture; dwarf trees grown in pots or tubs, filled with fine peaches, plums, pears, or other fruits, are beautiful objects, and to those who do not mind a moderate outlay to gratify at least a very innocent taste, is one that may be recommended, and it is, perhaps, the only mode of culture by which peaches can be grown with any certainty of success. Some fine specimens of this kind of cultivation were in the hall at the Annual Exhibition of the Society. Although a heating apparatus has been applied to those orchard-houses of which any accurate knowledge is possessed, yet perhaps the necessity for it might be obviated by, in the winter, plunging the pots containing the trees into litter, or some other covering, to protect them from the severe frosts; if this should be found effectual it would very much diminish the cost of this mode of cultivation.

STRAWBERRIES.

The crop of strawberries was abundant for a short period. At one time, some fears were entertained that it might be cut short by a continuance of dry weather, but these fears were soon dispelled by copious and abundant rains, and no check to the growth and product of this fruit was experienced. The first display of strawberries was made on June 15th, by several exhibitors, and the last on July 12th, the exhibitions in the interval between these periods having been varied in kinds, excellent in quality, and profuse in quantity. The deficiency that, for the past few years, has seemed to exist in the display of this fruit, was this year wholly overcome, without any special means having been resorted to for this purpose. Several varieties new, or of recent production, have been exhibited the past season, some of native, others of foreign origin; among these may be named Downer's Prolific, Princess Frederick William, Triomphe de Gand, Imperatrice Eugenie, La Constante, Admiral Dundas, Ambrosia, and Emma. Of some of these, the specimens were of great size and beauty. Six berries of the Triomphe de Gand weighed 3 1-20 ounces; six of the Imperatrice Eugenie, 4½ ounces; six of La Constante, 4 1-16 ounces; and six of Admiral Dundas, 4½ ounces. With but two exceptions, of none of the newer varieties exhibited

is any description attempted, neither is any expression of opinion with regard to them intended, and this exception is made because these two have each had the attention of cultivators specially called to them. It is not safe to express any decided opinion for or against a new fruit; a single trial hardly justifies the formation of a deliberate judgment, and an expression of an opinion formed from it, might very probably tend to mislead. The *Triomphe de Gand*, though new here, has been cultivated for some time and very extensively by the Rev. Mr. Knox of Pittsburg, who has commended it very highly; it is a large berry of good flavor, of a light red color, variable in form, the largest berries being coxcomb shaped, others conical, seems to be a strong growing variety, and is said by those who have grown it to be productive. *La Constante* has been grown for some years by Messrs. Hovey, who introduced it, and has been before spoken of in previous reports; it is very large, regularly conically shaped, of a bright red color, and good flavor, also said to be fertile and hardy. In appearance it is certainly most attractive, and a dish of fine berries of this variety can hardly in beauty be surpassed. Both of these varieties come to us from Belgium, and although the varieties of Belgian origin seem better adapted to this country than those of English parentage, yet it is believed that these, also, when subjected to the test of a general cultivation will be found, for the purposes of American growers, far inferior to those of native origin, and that attempts to introduce them to general cultivation will, as it has done with the fine varieties of British origin, terminate in failure. If called upon to express an opinion what varieties are best for general cultivation, a regard for truth would oblige the naming, as has heretofore been done, of those established favorites, Hovey's Seedling, Jenny Lind, and the Boston and Brighton Pine.

PEARS.

In no previous year, since the formation of the Society, has there been a greater, if so great a crop of pears, as was produced the present. This abundance was confined, as it sometimes is, to no class of varieties, and to no particular situations or districts, but was universal wherever the pear tree is culti-

vated, and those of every variety have been loaded to breaking with fruit. Pears, too, have been not only abundant, but of uncommon size and beauty; there has been little or no blight or cracking of the fruit, as is common with the Flemish Beauty, Beurre Diel, and some other kinds, but they have been almost universally smooth and fair. In some of the earlier varieties, those of the summer and early autumn, there seemed to be a deficiency of richness and flavor, but this defect, if it existed with them, did not appear to extend to those of a later season. There has been abundant displays of this fruit through the season, by numerous exhibitors, of fine specimens in great variety. There have been many new pears exhibited. Acquisitions by importation from Europe are giving specimens of their fruits, and the results of experiments by native cultivators to produce new varieties from seed are being placed before the Society. Among those of foreign origin that have, as is supposed, fruited for the first time in this vicinity the past year, may be named, Esther Comte, Leonine Pinchard, Bergamotte Incomparable, Avocat Nelis, Alexandrine Douillard, Seraphin Obyn, Anna Audusson, St. Vincent de Paul, Souvenir de Madame Treyvor, Lieutenant Poitevin, President de Page, Duchesse Helene d'Orleans, and Maria Louise d'Uccle. This list might be farther extended, but this is not thought necessary, as it would be neither safe or judicious to give descriptions or express opinions concerning new varieties, from having once seen a few specimens; to do so would be but adding names to the list; and yet it has been felt that the omission, in a report of the character of the present, of all mention of these novelties having fruited in this vicinity, and of their existence in collections in the neighborhood of Boston, was hardly justifiable. This mention of them, at least, serves as notice to such as may wish to increase collections by the addition of new kinds, that such wants may probably be supplied by our own without a resort to foreign nurseries.

Of pears of native origin, specimens of three new seedling varieties were presented to the Committee, by Dr. S. A. Shurtleff of Brookline, raised by him and being each of the first year of bearing. One named Admiral Farragut, another

John Cotton, and the third unnamed. Admiral Farragut was a large pear of obovate form, with a long stem, green in color, flesh fine grained, melting, but not very juicy, subacid. The John Cotton, was of medium size, obovate form, tapering towards the stem, skin of a pale yellow, flesh melting, juicy, slightly subacid, and moderately vinous; season of both, middle of September. The unnamed variety was very large, and in shape, color, and character of the flesh, seemed almost a reproduction of the Diel; its season, November. As has been said above, no reliable judgment can be formed of the value and character of a new fruit from once tasting it, and most especially does this apply to a new seedling pear in its first year of bearing, for pears of the first, and even of the first three or four years of bearing, furnish no sure and certain indication of what the variety may eventually prove, after it has by age become fixed and determined; there being frequently with age an increase of size and a change in the period of ripening or other particulars. All that the Committee then feel justified in saying with respect to these seedlings is, that they, especially the two first named, produced a favorable impression. At the Annual Exhibition, Mr. Clapp had several of his seedlings on the tables, among others was one unnamed, but marked as No. 21, that seemed to the Committee to be superior in flavor to the Clapp's Favorite, though not equal to that variety in size and beauty.

GRAPES.

The cultivation of the grape continues, as it has for some time, to excite a great if not absorbing interest with fruit growers, and their efforts in this direction have certainly not been without favorable and encouraging indications. When it is recollected that efforts, growing out of this interest to obtain a grape suited to the table, have succeeded in introducing to general notice such a grape as the Delaware, it cannot be said that such have been barren of results. And while it is not believed that any glowing anticipations are justifiable, that Massachusetts can ever be a vine growing and wine manufacturing region, yet to think that grapes may be produced, if they do not now exist, as it is believed they do, that shall

furnish an agreeable fruit for the dessert, is not unreasonable. The great obstacle that the vine grower has to contend with is the mildew ; were it not for this, it is thought that in ordinary seasons grapes might, by properly selecting varieties, as for instance the Delaware, be grown and ripened in Massachusetts without difficulty. The past season must, on the whole, be considered as favorable for the grape ; it is true, that in many instances the mildew has been very destructive, but in others and more generally, the vines have escaped its ravages. The assertion that the season has been favorable is certainly sustained by the displays made the past season of this fruit, for never were finer specimens of the Isabella placed upon the tables of the Society than on one occasion, when even Catawbas were also exhibited in as perfect state of ripeness and perfection as that variety ever attains in our climate. There have been some new or hitherto little known varieties of grapes exhibited, of which brief notice may not be thought out of place herein. One, which attracted the attention of the Committee by its good quality, was called the Crevelling. But a single bunch of it, grown in Salem by Mr. Bosson, was exhibited at the Annual Exhibition. It was a black, not large berry, sweet and spirited, that made a favorable impression on the Committee and all who tasted it ; it is an early grape, ripened the past year on a vine trained against a fence, on Sept. 14th. This variety may not be new, but it has never, as is believed, been before fruited in this vicinity ; it is, as is understood, an accidental seedling, and comes from Mr. Goodwin of Kingston, Pennsylvania. Some specimens of a new seedling grape were presented by Mr. Charles J. Power of South Framingham, represented as a seedling from the Isabella, now in its third year of bearing, the vine being seven years old, and as fully ripe this year on Sept. 15th ; said to be an abundant bearer, the vine perfectly hardy, and that does not drop the berries ; the vine having been grown on an open fence without protection from the North. Mr. Powers stated that he was unavoidably prevented from showing the fruit in a perfect state at its maturity, and when seen at a later period it was not in a condition to justify the formation of an opinion as to its quality. Some specimens of new

grapes from Mr. Charles Carpenter of Kelly's Island, Ohio, were presented by Mr. William Kenrick, named Lydia, Mary. Mottled, and Ellen. The specimens were in very bad condition and it was difficult to form, on that account, any opinion of their probable value. The two first named were white grapes, the third black, and the fourth of a dark amber color; they had all small berries. So far as they could judge of them, in their then condition, it appeared to the Committee that Lydia was rather acid, that Mary was pretty good, with a thick skin, that the Mottled was sweet, good, though pulpy, with a thick skin, and that the Ellen was rather subacid, with somewhat of a Catawba flavor. It may be considered as an established axiom that, though some varieties of grapes are sufficiently hardy to resist our winters, all are better for being laid down and protected. Mr. C. E. Grant, an experienced cultivator, attributes the superiority of his Isabella grapes this year, to the fact that his vines were laid down.

THE FRUIT CROP OF 1863.

An over supply of fruit has produced its natural effect upon the market, and caused prices for it to rule very low. This over supply, exceeding the demand, is probably to be mainly attributed to the most abundant crop, and cannot be, so far as this is the cause, permanent in its effects; but it may be that it arises in part from the fact that the great number of trees, especially of pears, and in pears was this excess most apparent, set out during the last few years, are now coming into bearing, and that it is their product that is creating a supply beyond the wants of the public. If this is so, if it should prove to be the case that the raising of fruit has been overdone in this vicinity, the natural consequence of an excess in production, low prices, must be expected to prevail, and no great recovery therefrom anticipated until an equality in production and consumption is restored by a diminution of the former or an increase of the latter.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

EFFECTS OF AGE UPON FRUIT TREES OF DIFFERENT KINDS. BY
T. A. KNIGHT. MARCH, 1824.

It has been a question among cultivators whether each variety of fruit has its period of youth, maturity, and of old age, and is formed for a limited period of duration only; or whether each be capable of eternal propagation, with undiminished health and vigor. The fact, that certain varieties of some species of fruits which have long been cultivated, cannot now be made to grow in the same soils, and under the same mode of management, which was a century ago perfectly successful, is placed beyond the reach of controversy. Every experiment that seemed to afford the slightest prospect of success, was tried to propagate the old varieties of the apple and pear, which formerly constituted the English orchards, without a single healthy or efficient tree having been obtained. The writer had detailed in the Philosophical Transactions an account of some experiments, which he repeated with the hope of being able to ascertain which, among the various organs of trees of aged varieties, first fail to exercise their proper functions; and he came to the conclusion that it is the leaf.

Having obtained by layers or cuttings, small plants of several of the most diseased of the old varieties of the apple, these were grafted within two inches of the surface of the soil with scions of new seedling and luxuriant varieties; and under these circumstances, the roots of the most debilitated and diseased varieties executed their office perfectly well, and were found upon examination, at the end of several years wholly free from every symptom of disease.

The process was then reversed, and scions of old varieties were employed as grafts; but into the young growing shoots which sprung from these, many buds of new and luxuriant varieties were inserted, and in the autumn every natural bud of the old varieties was destroyed. The inserted buds vegetated in the following spring, and by these efficient foliage

was given, when every symptom of debility and disease disappeared, and the wood and bark of the most exhausted and diseased varieties, at the time this paper was written (1824) constituted a part of the stems of large apple trees, and presented at the end of thirty years, as much apparent health as other parts of the stems of those trees. From these results Mr. Knight inferred that the debility and diseases of such old varieties arise from the want of a properly prepared circulating fluid; and that when such is given by efficient foliage the bark of the most debilitated variety possesses the power to cause the necessary secretions to take place, and the alburnum is enabled to execute all its offices.

If the leaf gradually fail to properly execute its office, a progressive degree of debility, preceding a state of disease and decay, must necessarily follow. This the writer noticed in some moderately old varieties of the apple and pear. They remained free from disease; they blossomed frequently, and sometimes freely; but they rarely afforded much fruit, and very slowly recover from the exhaustion of producing even a moderate crop. He was satisfied, therefore, that this state was induced by the inefficient operation of the foliage. He believed that this condition commences at the period when the original tree becomes, according to the ordinary course of nature, debilitated by age.

REMARKS ON MULE PLANTS. BY T. A. KNIGHT. MAY, 1823.

The scarcity of mule plants in a perfectly wild state, if they exist at all in this state, and the facility with which they are in many cases obtained in the garden, countenance the opinion entertained by many botanists, that plants of different species do not readily breed with each other, till their natural habits have been broken and changed by the operation of culture through some successive generations. Vegetable mules are, however, never produced, except under circumstances which rarely, if ever, occur in a perfectly natural state; for experiment has proved that not only the pollen of alien species must be introduced at the proper period, but also, that the natural pollen must be kept away, not only at that precise period, but generally for several succeeding days afterwards.

The writer says that under the most favorable circumstances, he has never succeeded in obtaining mules, unless the plant, or a considerable branch of a fruit tree has been reduced to the necessity of nourishing mule offspring or none. When the later blossoms on a fruit tree were suffered to remain, such branch either threw off the fruit which would have afforded mule plants, or the natural pollen was found to have been subsequently introduced by insects or winds, and to have annihilated the operation of that obtained from the plant of another species.

Not improbably some erroneous conclusions may also have been drawn, owing to varieties of permanent habits, into which different species of plants have sported, under the influence of different soils and climates in a perfectly natural state, having been mistaken for originally distinct species; for the number of species of plants, which came immediately from the hand of nature, is probably much smaller than the number now found in the catalogues of botanical writers. It is also impossible to distinguish such natural varieties from originally distinct species by any peculiarities in their external character. In the present imperfect and limited state of our information, it is, therefore, in many cases, difficult to decide whether plants are, or are not mules; it being questionable whether mere natural varieties, after they have through successive generations, assumed very widely different forms and characters, are found to breed with each other as readily as other varieties of the same species of similar habits. That real mule plants have in some instances, and other certain circumstances, produced offspring, mules probably, like themselves, cannot reasonably be questioned.

OBSERVATIONS ON SOME EXPERIMENTS IN RINGING THE BARK OF
FRUIT TREES AND OTHER TREES AND PLANTS. BY JOSEPH
SABINE. MARCH, 1820.

The practice of ringing the branches of fruit trees to make them yield more produce is not novel; but though occasionally used, it does not appear that much inquiry has been made to discover the most advantageous method, or the proper

seasons for performing this operation ; nor is it ascertained why it should be particularly successful in some instances and not in others.

The writer thinks the production of a greater crop of fruit is the most important of the advantages expected to ensue from ringing. This increase must of course arise from an additional number of blossoms, and in some cases from blossoms that would not have existed in the ordinary course of nature, without the intervention of ringing. The formation of flowers is, therefore, the point to be looked to, in considering the application of the practice.

It must be obvious on many accounts that the spring is the most proper period to cut the rings ; the bark is then very readily detached, and the work is done with comparative ease. With respect to the width of the incision, it must be recollected that the separation of the communication of the bark, in every case, materially affects the health and vigor of the branch. As long as the separation is kept up, so long may the formation of additional blossom buds be expected ; but the restoration of the communication puts an end to the whole of that unnatural process which the interruption had occasioned.

It is, therefore, requisite that the bark should be separated nearly the entire season in which the ring is made, more especially in those trees, where an increase of the succeeding years' bloom is intended to be produced. But it is not advisable, in any case, to keep the ring open for a long period ; the deposit of alburnum at the upper edge of the ring, caused by stopping the passage of the descending sap, increases the size and weight of the branch in that place so much, while the under part remains of its original size, that it is very liable to be broken short off at the ring, if the bark be suffered to remain long disunited.

Mr. Williams of Pitmaston, mentioned to the writer of this paper, that a ligature on the branch, by a waxed string tied lightly around it early in May, produces nearly the same effect as ringing. In this case, though the downward flow of sap from the leaf is in some measure prevented, the alburnum

is not injured by exposure to the air, and there is less obstruction given to the ascending sap, so that the health of the branch is preserved.

The following is a general summary of facts gathered by the writer from his experiments in ringing different fruit trees. All apple trees form an abundance of additional flower buds in consequence of ringing; but if the ring be wide, the ringed branches speedily become sickly. He advises, therefore, not to cut rings of greater width than will be closed up at the end of the season, or early in the following year. He thinks that fresh branches on the same tree ought to be annually ringed to obtain the most benefit from the operation, instead of repeating it upon the same branches. The quality of the fruit was always better on the ringed branches than on the others; its size was not improved in all cases, but on non-producing years, the quality was greatly increased on the ringed branches.

Pear trees do not suffer so much from ringing as apple trees; the ring, though kept open does not induce weakness so speedily; the ringed branches do not make shoots in such numbers, nor in such vigor, but they retain their health sufficient for fruitfulness many years. Indeed, so little injury is done to pear trees by ringing, that several branches may be kept cut at one time without danger, and a continuance of crop may be secured by occasionally taking out a branch that has become decayed, and replacing it with new wood. In healthy and clean shoots, the bark of pear trees soon restores itself over the ring, unless it is cut very wide.

The branches of plum and cherry trees sustain injury, and become cankered by ringing; but as they are always free blowers, an increase of blossom by artificial means is not wanted to make them produce fruit. The same remark is applicable to peach and nectarine trees.

Vines are much benefited by ringing; their blossom is produced on shoots of the same year in sufficient plenty; for additional blossom the use of ringing is not, therefore, required; but increase of size, early ripening, and improvement of flavor in the grapes, all result from ringing.

PHYSIOLOGICAL OBSERVATIONS ON THE RINGING OF BRANCHES
OF FRUIT TREES. BY T. A. KNIGHT. JUNE, 1820.

Mr. Knight differs somewhat from Mr. Sabine in the preceding views on the practice of ringing, the advantages and disadvantages of which, he thinks, cannot be always foreseen. The true sap of trees is wholly generated in their leaves, from which it descends through their bark to the extremities of their roots, depositing in its course the matter which is successively added to the tree; and whatever portion of such sap is not thus expended, sinks into the alburnum, and joins the ascending current, to which it communicates powers not possessed by the recently absorbed fluid. When the course of the descending current is intercepted, that necessarily stagnates, and accumulated above the decorticated space, whence it is repulsed and carried upwards, to be expended in an increased production of blossoms and of fruit. This accounts for the increased produce of blossoms and more rapid growth of the fruit upon the ringed branch; but there are other causes that operate in promoting its early maturity. The part of the branch below the ring is ill supplied with nutriment, ceasing almost to grow. The parts which are above it must, therefore, be less abundantly supplied with moisture; and drought, in such cases always operates powerfully in accelerating maturity. In extreme cases a morbid state of early maturity is induced rendering the fruit worthless.

Hence it is plain that great judgment is to be exercised in performing this operation, and in selecting the proper season for it. Mr. Knight has never witnessed any except injurious effects, when the experiment has been made upon very young or very small branches. He has found a tight ligature, applied in the preceding summer in such cases, to answer in great measure all the purposes of ringing, with less injury to the tree.

He concludes by saying that he is not friendly to the process of ringing, in whatever manner it may be performed; and he thinks it never should be adopted, unless in cases where blossoms could not otherwise be obtained, or where, in very early forcing, the value of a single crop of fruit exceeds the value of the tree.

CHINESE METHOD OF DWARFING TREES AND SHRUBS AND OF
PROPAGATION FROM BRANCHES. BY JOHN LIVINGSTONE OF
MACAO. JUNE, 1820.

Though a correct taste may deprecate the art of dwarfing trees and shrubs, the subject certainly possesses some attractions, as tending to increase our information respecting the laws of organic life. Lord Bacon is the only early writer who appears to have heard of the practice of dwarfing. In his *Sylva Sylvarum* he says, "Trees are generally set of roots or kernels; but if you set them of slips, some of the slips will take; and those that take, as is reported, will be dwarf trees." Before Lord Bacon's time, the Polo family had imparted to Europe many facts regarding the arts in China; and it is probable that the dwarfing of trees, at least of the mulberry, was derived from this source.

Lord Bacon says, "from May to July, you may take off the bark of any bough being of the bigness of three or four inches, and cover the bare place somewhat above and below with loam, well tempered with horse dung, binding it fast down; then cut off the bough about All-hallows tide, in the bare place, and set it into the ground, and it will grow to be a fair tree in one year.

This is the general method practised in China for obtaining by far the greatest number of fruit trees and shrubs. It is extended also to many of the forest trees which they cultivate: and is a preliminary step in the formation of nearly all their dwarf trees and shrubs. When the dwarfing process is intended, the branch which had pushed radicles into the surrounding composition in sufficient abundance, and for a sufficient length of time, is separated from the tree and planted in a shallow earthen flower pot, of an oblong square shape; it is sometimes made to rest upon a flat stone. The pot is then filled with small pieces of alluvial clay, broken into bits about the size of common beans, being just sufficient to supply the scanty nourishment which the particular nature of the tree and the process require. In addition to a careful regulation of the quantity and quality of the earth, the quantity of water, and the management of the plants with respect to sun and shade, recourse is had to a variety of mechanical contrivances

to produce the desired shape. The containing flower pot is so narrow, that the roots pushing out towards the sides are pretty effectually cramped. No radicle can descend; consequently it is only those which run towards the ends, or upwards, that can serve to convey nourishment properly; and it is easy to regulate those by cutting, burning, &c., so as to cramp the growth at pleasure. Every succeeding formation of leaves becomes more and more stunted; the buds and radicles become diminished in the same proportion, till the balance between the roots and leaves is obtained which suits the character of the dwarf required. In some trees this is accomplished in two or three years, but in others it requires at least twenty years.

It is the custom in some parts of China to entice ants to destroy the heart wood, into which openings are made to introduce sugar. Fruit trees made by abscission bear more fruit than similar boughs left on the tree from which they are taken. Dwarf trees are in great demand in China, and bring a price in proportion to the crop of fruit which they bear, especially oranges, finger-fruits, peaches, grapes, &c. The fruit is sufficiently well tasted; but is never intended for use by the Chinese. They are contented with the handsome appearance of the miniature fruit tree, on which the fruit is also usually more permanent than on trees of full size. In succeeding seasons, the dwarf tree flowers well, and the flowers, for the most part, remain longer than on the large trees. Little fruit, however, comes to maturity and that little is not good.

PTELIA TRIFOLIATA AS A SUBSTITUTE FOR THE HOP.

BY DR. J. P. KIRTLAND, EAST ROCKPORT, OHIO.

I HAVE recently tested the winged seeds (*Samara*) of the *Ptelia trifoliata*, as a substitute for the hop. In their membranous investment is contained a large amount of an aromatic and bitter principle, akin to lupuline, the essential requisite for flavoring and preserving of yeast and malt liquors. For domestic purposes they are the equal if not superior to

the hop, and I am firm in the belief, that for the extensive demands of the brewers and distillers they will furnish a cheap and efficient substitute.

The *Ptelia* is a handsome shrub attaining in favorable localities 18 or 20 feet in height. It is indigenous to Ohio but grows in greater abundance among the sandy downs on the east shores of Lake Michigan, and will flourish under neglect in a variety of soils and waste places. A heavy crop of seeds never fails to be produced annually, exempt from all contingencies of frosts, bad weather, and destructive insects. They vegetate freely.

The seeds and bark of the root have been used empirically and it is said successfully as a substitute for quinine in the treatment of certain forms of malarious diseases in the West. Vegetable chemistry may perhaps detect in them either an alkaloid or resinoid which will prove an acquisition to the *Materia Medica*. This shrub deserves further attention.

The Tallow tree of China (*Stillingia sebifera*) has been successfully introduced into the northwestern provinces of British India. It yields large quantities of tallow and oil from its seeds. The vicissitudes of our climate would probably prevent its cultivation in the United States north of Florida; but you have growing abundantly in New England a shrub which yields a valuable wax, that, combined with a mixture of tallow and lard qualifies them and furnishes material for a cheap and convenient candle. Might not the *Myrica cerifera* or Bayberry shrub be profitably cultivated in waste and broken grounds in the Northern and Western sections of our country? Like the *Ptelia* it will flourish in every kind of soil.

Has the experiment been tried of introducing into this country the European house sparrow for the purpose of destroying many species of depredating insects? This bird (*Pyrgita domestica* of naturalists) is remarkable for its insectivorous habits, and I have no doubt its introduction into the Northern and Western parts of our country would result greatly to our agricultural and horticultural interests.

The importance of enlisting the aid of such winged auxiliaries, in counteracting the attacks of insects, I have recently

seen illustrated in the case of the house wren and bee moth. This wren was not a visitor about my premises twenty years ago, but since I commenced an extensive apiary it has appeared and is annually increasing. During summer and autumn several individuals may be seen inquisitively examining the precincts of the hives and capturing in large numbers the larvæ, pupæ, and perfect moths of this depredator. At the same time a small ichneumon insect may also be observed thrusting its feelers into every crack and crevice of the hives in search of the worms and pupæ of this moth. Between the combined effects of these two auxiliaries, and the facilities for observing and controlling the operations within the hive, afforded by Langstroch's moveable comb principle, the bee moth has ceased to be considered of any consequence in my estimation; at least so far as I am concerned.

My observations on the *Ptelia* as a substitute for the hop, may be seen at greater length in a late number of the *Ohio Farmer*.

POMOLOGICAL GOSSIP.

NEW PEARS.—The new pears heretofore introduced we have described in previous volumes. Many of them have been added to our collections, and some have fruited; others will be proved the present year.

The following are still more recent varieties, of which we know nothing more than what is stated in the descriptions taken from the published Catalogues. No doubt some of them will prove valuable varieties:—

Amandine de Rouen, (Soc. Van Mons.) Fruit medium, or large; flesh white, melting, well perfumed. November and December.

Amedeé le Clerc. Fruit first quality, resembling the Bonne d'Ezee, but more sugary, of large size. January.

Amiral Cecile. Fruit first quality, form and color of the Poire Pomme, but superior in quality. Tree vigorous, and very fertile. December.

Angelique le Clerc. First quality, form of the Doyenné, elongated; of good size. Tree very hardy. December.

Anna Nelis. First quality; of large size, yellowish at maturity. Tree vigorous. April and May.

Amelie le Clerc. First quality; similar in character to the Brown Béurré, but the tree is not so delicate, and fruits well as a pyramid or standard. October.

Beurré de Fevrier. First quality, fruit medium or large, and pyriform, resembling in its color the Beurré d'Hardenpont.

Beurré Dumon. First quality; fruit large and rounded, melting; juice abundant and sugary, with an agreeable perfume. October.

Bonne Therese, (Nelis.) First quality; fruit pyriform, resembling much in its taste the Calebasse Bosc; juice abundant and sugary. October and November.

Belle de Figuier. Fruit medium size; form oblong, with a russety skin; flesh fine, melting, very juicy, agreeably acid, and perfumed. December and January.

Beurré Robert. First quality, large; form of the Beurré d'Artemberg, from which it was raised; skin pale green, traced with russet towards the eye, and near the stem; flesh fine, melting, buttery, sugary, and delicious. November and December.

Colmar Charny. Fruit first quality; flesh half fine, melting, buttery; juice sugary, with an agreeable perfume; tree vigorous and fertile. January and February.

Colorée de Juillet. First quality; tree vigorous and fertile; fruit medium size, of a reddish carmine color; does not rot. 15 July.

Dieudonne Anthone. Fruit medium size, melting; juice abundant, sugary, vinous, well perfumed, and of first quality. Tree very vigorous, and great bearer. October.

Doyenné Jamin. Fruit medium size, form of the Doyenné, skin green, dotted with brown specks; flesh fine, melting, and of excellent quality, with a flavor similar to Doyenné d'Alencon. January to March.

Duchesse d'Hiver, or Tardive de Toulouse. Fruit very large, weighing 450 grammes, melting, sugary, and perfumed and keeps well until March or April.

Fondante de la Maitre Ecole. Medium size, pyriform ; skin yellow, dotted with green ; flesh yellow, half melting, sugary, vinous and refreshing. December and January.

General Canrobert, (Robert.) Fruit very large, of the form of the St. Germain ; flesh fine quality, excellent. January and February. A seedling of the St. Germain.

Huile de Printemps, (De Hartwiss.) A pretty fruit, of the form of the Rousselet, melting. March and April.

Milan de Rouen. First quality ; tree vigorous, very fertile ; color and taste similar to the old Bergamot d'Été ; superior to that, and the tree very hardy. September.

Monseigneur Sibour, (Gregoire.) First quality ; medium or large, turbinate pyriform ; flesh yellowish white, half fine, melting ; juice abundant, sugary, perfumed ; tree not very vigorous. November.

Poire du Congress Pomologique. First quality ; medium or large, oval truncate, very fine ; tree very productive. November, December.

Poire Gendron. Fruit large ; skin shining, of the same color as the Chaumontel, yellowish green, shaded with red ; flesh fine, melting, first quality. February and March.

Prince Imperial de France, (Gregoire.) First quality ; fruit very large ; flesh white and rose, very fine, melting ; juice abundant, sugary, with an agreeable perfume. October.

Sebastopol. Fruit medium, first quality ; tree very vigorous and productive. September.

Souvenir de la Reine des Belges, (Gregoire.) Fruit very large, pyriform ; flesh yellowish white, half fine, melting, first quality. November.

Sucré Blanche. Fruit medium or large, turbinate pyriform ; very productive, and of first quality. August.

Vermilion d'En Haut. First quality ; tree vigorous, very productive. Fruit medium size, shaded with vermilion in the sun ; flesh fine, very melting ; juice abundant, with an excellent perfume. September.

XXVth Anniversaire de Leopold I., (Gregoire.) Fruit large, oval ; flesh white, fine, melting, buttery ; juice abundant, sugary, with an exquisite perfume. Tree of medium vigor, very productive. November.

GRAPES IN MISSOURI.—At a meeting of the Missouri State Horticultural Society, the subject of grapes and grape culture was fully discussed, and the following kinds were recommended. *For the Table and Market*:—Concord, Delaware, Hartford Prolific, Herbemont, and Catawba. *For Wine*:—Norton's Virginia, Herbemont, Catawba, Delaware, Concord, Clinton. Col. Hussman, a noted cultivator, read a paper of Grape Culture, in which he stated that the Concord is the most profitable grape for wine that he cultivates; that it will produce \$1000 per acre, net. The following kinds were recommended as promising well for the table:—Crevelling, Cuyahoga, Clara, Blood's Black, and Mary Ann.

AUTUMNAL ROSES.

BY WILLIAM PAUL, CHESHUNT NURSERIES.

WE continue Mr. Paul's article on roses—the present paper giving a full account of the hybrid perpetuals which have been so highly praised, but which in our severe climate and short seasons do not appear to afford the quantity of bloom they do in Great Britain or France. Still they are beautiful roses, and for producing occasional blooms in August and September valuable to every garden.

To have them in perfection they should be severely pruned after they have done blooming, and require an abundance of manure to keep them in full vigor. If protected in winter by bending down the shoots and covering them with earth, in the same manner that raspberries and grapes are protected, and pruned short in the spring, they will give a far better bloom.

AUTUMNAL ROSES.—I shall here, as with Summer roses, describe the leading groups only. The PERPETUAL MOSS are desirable because they prolong the season of Moss roses; beyond this not very much can be said in their favor. They are for the most part of shy growth, and not overburdened with moss. They require a rich soil and should be pruned closely. Empress Eugenie is the prettiest of the group, but also one of the most difficult to preserve in health, being naturally a short lived rose. The flowers are bright red, of

medium size, full and perfect in form ; the growth is dwarf. General Druot grows freely enough, but the flowers, which are crimson and purple shaded, are only semi-double. Hortense Vernet produces white flowers shaded with rose. Madame Edouard Ory is one of the best ; the growth is free, the flowers bright rosy carmine, large, full, and fine. Perpetual White Moss is also an excellent variety ; the flowers are white, produced in clusters well massed ; perhaps the most interesting of the group. Salet is a good rose, very free and hardy ; the flowers are bright rose margined with blush, large and full.

The HYBRID PERPETUAL, now the leading group of the genus, is of comparatively modern date, being a new branch of an old stock. In 1837 my friend M. Laffay of Bellevue, sent me a beautiful purplish rose which he called Princesse Hélène, describing it with all the enthusiasm of his warm and kindly nature. This was the first strongly marked divergence from the now old-fashioned Damask Perpetual roses, which were then so much in vogue, and from which this sprang. Fortunately this hybrid produced seeds freely, and in three years we had no less than 20 varieties. Now, the number is legion, and they take much the same position in the garden now that the French roses did a quarter of a century ago. Well, they are the finest of roses, and improving at a more rapid rate than any other group ; form, color, and fragrance are here in perfection, and they are the hardiest and finest of autumnals. In looking through the list of candidates for election it is a task of no ordinary nature to bring down the number within reasonable limits. One has a claim for form, another for color, a third for fragrance, and in some cases in which one or the other of these requisites may be absent the general habit of the variety is so good or so elegant that it outweighs or negatives these important considerations. I shall confine my remarks at present to the cream of the old varieties, reserving what I have to say of new roses for a special paper.

Anna Alexieff is one of those hardy free flowering roses that is invaluable for masses and conspicuous situations in the garden ; the foliage is handsome, and it is almost always in

bloom. The flowers are rosy pink, of good size and form, usually arranged in clusters. Anna de Diesbach is quite the opposite to the last in every character but color; the flowers are composed of fine, large, thick petals, produced singly, of immense size, but few and far between. Auguste Mie is a truly beautiful silvery pink rose of exquisite form; the shape is almost equal to Coupe d'Hébé, which it resembles in some respects; it is good for standard, pot, or pillar. Baronne Hallez is a dark red rose of average size and superior form, sweet and free, but hardly vigorous. Cardinal Patrizzi is one of the finest roses grown under glass, but it is uncertain out of doors, and seldom more than second rate; the colors are brilliant red shaded with blackish purple. Caroline de Sansal, clear flesh-color with blush edges, is a first-class show rose when it can be found clean; it is, however, a fair weather rose only, and while it cannot be dispensed with, it cannot be confidently relied on. Colonel de Rougemont is a very large expanded rose of a pale rose color, shaded with carmine; it is of rather delicate habit, and requires a rich soil, and close pruning, which extra attention it is quite worthy of. Comte de Nanteuil is a perfect rose according to rule; the flowers are rosy carmine, large, full, and quite circular in outline; quite a show rose. The same may be said of Comtesse de Chabillant, whose flowers are pink and very sweet; this is not so constantly good as the last named, but when in its best state it is of matchless beauty. Duc de Cazes is a very distinct flower; the colors are purple, crimson, and maroon, very velvety and variously shaded; it is a most effective rose in the garden if pruned sparingly; the growth is vigorous. Duchesse d'Orleans is a good show rose; the flowers are lavender blush, large and full, the growth vigorous. Empereur de Maroc, though not a show rose, can hardly be left out of a limited collection; the rich, velvety, maroon flowers, the summits of the petals folding back with so much regularity and grace, are unique and lovely. François Arago, with dark, velvety, purple flowers, is also a valuable addition to our dark roses; it is hardy, free, and the best of its color. François I^{er} is quite first-class, whether for exhibition or garden decoration; the flowers are brilliant cherry, of good size and form. General

Jacqueminot is almost too well known to need description; the flowers are brilliant red, very velvety, large and very double. The introduction of this rose was quite an era in rose culture; it produces seeds so freely, and the seedlings have proved so good that we have already a numerous race derived from it. General Washington has bright, rosy, red flowers, of large size and full; it is sometimes splendid but uncertain. Gloire de Vitry is a first-rate show rose of a bright rose-color, large and full; the foliage is rather thin. Gloire de Santenay produces scarlet crimson flowers, large, full, and fine; it is a little uncertain, but nevertheless a superb rose. Imperatrice Eugénie is a white rose with rosy centre; the flowers are not large but full and exquisitely formed, the habit is rather delicate. Jules Margottin is an every day rose, the flowers of a bright cherry color; one of the best for a standard or a bed. La Reine, one of M. Laffay's original Hybrid Perpetuals, is not yet surpassed in its way; the flowers are rosy pink tinged with lilac, very large and globular; it is a magnificent flower, although a little uncertain. La Ville de St. Denis is still a good flower, rosy carmine, large and full. Lælia is a silvery rose shaded, very large, globular, and in every respect of first-rate quality. Lord Raglan is one of those high colored varieties, scarlet crimson edged with violet crimson, that pleases everybody; the flowers are large, full, and of good shape, the growth is vigorous. Madame Boll is very different to any other, appearing to have some of the old French blood in it; the flowers are rose color with blush edges, very large, full and excellent. Madame C. Crapelet is a flower of great finish; the blossoms are rosy red, veined and shaded with lilac, the form very beautiful. Madame de Cambacérès is rosy carmine, often purplish, cupped, large and full; a good free hardy rose with beautiful foliage. Madame Furtado is a full rosy crimson flower, very sweet, and one of the best for exhibition. Madame Knorr is bright rose with pale edges, large, full, and flowers freely. Madame Masson is a grand rose, of a reddish crimson hue, shaded with violet, very large and full. Madame Rivers has clear flesh colored flowers of fine form, large and full; growth vigorous. I remember seeing this rose at Lyons in the seedling state, but

it is better here than there. Madame Vigneron is one of those silvery flowers tinged with rose or purple, large, and of good outline, although a little flat. Madame Vidot is a model in form, and beautiful in color also; transparent flesh, shaded with rose, large and full. Madlle. Bonnaire is perhaps the best of the white kinds, with rosy centre; it is of good average size, full, and of exquisite form. Prince Léon is a fine bright crimson variety, the form and color all that we could wish for, and in its best state quite a show rose. Queen of Denmark is sometimes very fine, though a little uncertain; the flowers are lilac flesh, large, full, distinct, and beautifully transparent. Queen Victoria, introduced by me, is still the best in its way; the flowers are white shaded with peach, the color of the old Celestial rose, large and full; the growth is vigorous. Sénateur Vaisse is one of those full bright red roses with large smooth thick petals much in advance of the general run of these; the flowers are large and full, the growth vigorous. Souvenir de Leveson Gower is a fine ruby colored flower, very large, full and well shaped; growth vigorous. Souvenir de la Reine d'Angleterre has bright rosy pink flowers, very large, full, and fine; the growth is vigorous, and it forms one of the best of pillar roses. Triomphe d'Alençon, with its fresh bright red flowers, is sure to please. Baronne Prevost, which it somewhat resembles in growth and form, looks faded by the side of it. Triomphe de Lyons is the best of the very dark large well-shaped roses, although not always clean and good. Triomphe de l'Exposition produces vivid reddish crimson flowers; it usually loses its shape too soon to be first-class for exhibition, but it is one of the most effective for garden decoration. Triomphe de Paris is a good dark rose, of size, form, and fulness above the average. Triomphe des Beaux Arts is a plum-colored edition of General Jacqueminot, excellent for garden decoration, but scarcely full enough for a show rose. Victor Verdier is a decided step in advance; the flowers are rosy carmine with purplish edges; a large showy free growing rose with beautiful foliage, good for exhibition, and one of the very best for effect in the garden. Victor Trouillard, although irregular in shape, is valuable for its brilliant velvety crimson flowers and beautiful

foliage. Virginal comes in strong contrast to the preceding; the flowers are pure white, the habit rather delicate, but the variety still indispensable. William Griffith, a well known old rose, is one of those glossy looking flowers of a pink or pale rosy hue, in its best state very beautiful.

The Hybrid Perpetual roses require high cultivation to bring out their valuable qualities in full perfection; manure freely and prune closely, watering occasionally during the season of most rapid growth if the weather should be dry. Those kinds which bloom very freely should be relieved of a portion of the flowers when in the bud state, by which practice the flowers that are left will bloom finer, and the vigor of the plant be more efficiently preserved.

RODANTHE MANGLESII MACULATA.

BY THE EDITOR.

SOME time since (XXVII., p. 226) we copied a very interesting account of the Everlasting flowers which are so admirably adapted to the purposes of decoration, both for the garden and border; and we can do no better than to refer the reader to that article, in which a long list of the better known kinds was given, for a general knowledge of their merits. For want of information, however, of the nature of all these flowers, or an accidental omission, the Rodanthe was not included among the number. That pretty annual, somewhat resembling it, the *Acrolinium*, was named, and also the *Morna elegans*.

The Rodanthe, for delicacy of growth, beauty of its coloring, and elegance of form, excels either of the above; and if the flowers are cut before too much expanded they retain their form and coloring for many years.

R. Manglesii is a well-known and beautiful annual, but the new variety we are now about to notice (FIG. 10) *R. maculata*, is a great improvement upon it, and will take its place in our gardens. It is from Swan River. The flowers are larger, and the dark spot at the base of the outer florets renders it highly ornamental.

R. maculata grows from twelve to eighteen inches high, and produces star shaped flowers, of a pure rose color, each ray floret being spotted with darker color at the base. The foliage is small sized, rather spare, and the flowers droop slightly, from the slenderness of the stem, showing the under side, which is of a silvery gray.

It is readily raised from seeds, and the cultivation is simple. To have it in perfection the plants, after having been



10. RODANTHE MANGLESII MACULATA.

raised in pots, may be transferred to the border, using a small quantity of peat or leaf mould and sand, with the common garden soil. Grown in pots it is highly attractive, and in a light peaty soil it branches considerably, and forms a beautiful object.

For winter bouquets its delicate rose colored flowers are very ornamental, and, when wanted for this purpose, they should be cut off as soon as they expand.

REVIEW.

THE FIELD AND GARDEN VEGETABLES OF AMERICA ; containing full descriptions of nearly eleven hundred species and varieties ; with Directions for Propagation, Culture and Use. By FEARING BURR, JR. Illustrated. 1 vol. 8v. pp. 674.

WITH the introduction of the many new and improved varieties of vegetables a greater interest has been felt in this department of horticulture. The old and inferior sorts of vegetables are slowly giving way to the new, and there is a general desire to know the exact merits of each and all that are brought to notice. To supply this information there has been no means except through the pages of horticultural periodicals, or in different works upon gardening, and these only in a limited way, and hence the character and quality of many of the best vegetables have been little understood, and their cultivation limited, while the old and inferior have been generally grown.

Of Treatises upon Kitchen Gardening there are many, all very valuable in their way, but all deficient in what was most important—full descriptions of the most excellent kinds. It has been rather surprising that information so much needed has not been given to the public. Yet, except perhaps in the pages of the *Bon Jardinier*, a French work, published yearly, it would be difficult to obtain much reliable information.

To supply this desideratum is the object of Mr. Burr's volume. He has devoted years to the accumulation of reliable information, gathering seeds from all the best sources, abroad and at home, cultivating and proving them, under his own eye, and detecting their synonymes ; the result is the work before us, viz., a notice of more than one thousand vegetables, more or less cultivated in this country, or in Europe, with particular descriptions of all the most important and brief remarks in regard to their propagation and use.

The volume reflects the highest credit upon the author, and is an honor to our horticultural literature ; indeed, it is not too much to say it is the most complete work of the kind

ever offered to the public, and will form an indispensable addition to any cultivator's library. Henceforth there will be no excuse for the dissemination of inferior varieties of seeds, or old sorts under new names.

The work is published in beautiful style; the illustrations which accompany many of the descriptions are finely executed, and we take much pride in recommending it to the attention of all who would become familiar with the subject of which it treats—a thorough knowledge of our field and garden vegetables.

General Notices.

A CODE OF ROSE CULTURE.—To grow roses well you must have shelter from cutting east winds, and if the position is not sheltered, it must be made so by means of a wall, a fence of yew, borders of evergreens, or some other plan that will enhance rather than mar the beauty of the scene. There must be good drainage to carry off excess of moisture. My own way of growing roses in borders, is to take out the soil three feet deep, then lay down a foot of brick rubbish and old mortar, then two feet of strong loam into which an abundance of well rotted sweet dung has been worked. If the space covered by roses is too extensive for this plan, drainage must be secured by means of drain pipes, if the soil itself does not serve as a natural filter. In any case the soil must be rich, but none of the old fashioned exciting composts of bullocks' blood, new pigs' dung, or such killing stuff, must be used. Then, in planting, let them go to their final quarters from the middle of October to the middle of November, being first shortened in; and if possible, none should be used, especially of worked standards, that have been grown to any size in pots. Once a year dress the roots with a new supply of rotted dung. During dry weather, when roses are in bloom, they must have plenty of water—not cold and hard from a well, but tepid through exposure to the sun, and occasionally strengthened by the admixture of a little guano. Whatever insects appear water is the remedy; it must be played over them from an engine and continued till all the pests disappear. Pruning must be performed in March, but not severely, unless special circumstances require it, for there is scarcely any rose that will bear close cutting with impunity. With such management you may insure roses in abundance, whether you live in the North or South, the main requisites being liberality of food and water, moderate shelter, good exposure to the south, and the roots to be disturbed as little as possible.

Many town gardens are so situated that access to the garden is obtainable only through the house. In these cases manure, gravel, and other such

materials have to be carried through in baskets, and besides the extra labor and expense there is great inconvenience, and the production of much dirt and litter about the house. The fear of this deters many from doing justice to their plats of ground, and the roses are the first to pay the penalty. It may be of service to thousands of persons so situated, if I here suggest that, instead of stable dung, guano and wood-ashes are excellent fertilizers for top dressing roses and all other border flowers, such as dahlias, hollyhocks, &c., that require abundant nourishment. Add half a peck of guano to every bushel of wood-ashes, and apply a quarter of a peck of the mixture to each tree, in a circle of three feet diameter around the stem. This should be applied in February. Puero guano, a most valuable artificial manure, may be used in the same way in place of guano.

It requires rather an intimate knowledge of the habits of the various class of roses to prune them properly. As a general rule, prune rather close at the time of planting, all roses newly received from the nursery; leaving two or three buds on the stoutest stems, and cutting clean away all weak ones. Watch the spring growth, and punch out with the thumb-nail every bud which takes a direction at variance with the future formation of a handsome head, and allow only those to push which point outwards with some regularity. All climbing roses, whether on walls, poles, or trellises, should be cut back to the lowest three or four buds every spring, so as not to allow of the formation of permanent blooming wood, until the root has acquired strength to maintain a vigorous growth above. Provence, French, and Damask roses should be cut back to from four to six eyes each, and all thin and weak sprays removed entirely. Perpetuals should have a third of the shoots cut clean away and the rest shortened to four or five eyes. A few of the hardiest and earliest blooming roots should be pruned moderately in November; but as a rule, it is well not to let the knife touch any kind of rose till February, and from hence to the middle of March all should be pruned.—(*Gardeners' Weekly Mag.*)

Gossip of the Month.

FERTILIZERS FOR PLANTS.—A new article for a fertilizer has been introduced to notice by Henry A. Breed & Company of Boston. This substance consists of bone finely pulverized, in fact, bone in the condition of flour. The value of bone is well understood, but it is better appreciated in Europe than in this country. England imports bone from South America, and even from the United States, and all parts of the world, at the rate of about 80,000 tons yearly. English statistics show that great results have been obtained from the use of bones. Some agriculturists have failed in the application of bones, from the use of large pieces, which require several years to dissolve. The samples shown us by Messrs. Breed were as fine as the best Rochester flour. This flour of bone, however

must not be confounded with "bone meal," which is a wholly different article. The flour of bone contains 58 per cent. of phosphate, and the rest chiefly animal matter. It is made from the raw bone.

Societies.

HARTFORD COUNTY, (CONN.)

At the Annual Election, April 4, 1863, the following officers were elected for the ensuing year :—

President—D. S. Dewey, Hartford.

Vice Presidents—J. S. Butler, Edward Bolles, R. D. Hubbard, of Hartford ; William H. Risley, Berlin ; N. W. Stanley, New Britain ; Henry Mygatt, Farmington ; Sheldon Moore, Kensington ; Salmon Lyman, Manchester ; E. A. Holcomb, Granby ; H. A. Grant, Enfield ; S. D. Case, Canton ; T. C. Austin, Suffield ; H. S. Collins, Collinsville ; Eli Moore, Southington ; R. H. Phelps, Windsor ; Sherman Steele, West Hartford ; William G. Comstock, East Hartford ; J. Atwood, Newington ; S. W. Robbins, Wethersfield ; H. Affleck, Glastonbury ; Joseph Olmsted, Warehouse Point ; Wm. Wood, East Windsor ; S. G. Ely, Bloomfield.

Recording Secretary—Charles T. Webster.

Corresponding Secretary—Thomas K. Brace, Hartford.

Treasurer—P. D. Stillman.

Auditor—S. H. Clark.

The usual Committees were appointed for the ensuing season.

FRUIT GROWERS OF EASTERN PENNSYLVANIA.

At the Annual Meeting, held in March, the following officers were elected :—

President—Rufus A. Grider of Bethlehem.

Vice Presidents—A. W. Harrison, Philadelphia ; T. Baldwin, West Chester ; D. Engle, Marietta.

Recording Secretary—W. Hacker, Cheltenham.

Corresponding Secretary—C. Dingee, Avondale.

Treasurer—R. Otto, West Chester.

MISSOURI HORTICULTURAL.

The Annual Meeting was held in St. Louis in January, and the following officers elected for 1863 :—

President—H. F. Mudd, St. Louis.

Vice Presidents—Dr. B. F. Edwards, St. Louis ; Geo. Hussman, Herman ; O. H. P. Lear, Hannibal ; Isaac Snedeker, Jerseyville ; Wm. Hadley, Collinsville, Ill.

Corresponding Secretary—Dr. L. D. Morse, Allentown.

Recording Secretary—Wm. Muir, Melrose.

Massachusetts Horticultural Society.

SATURDAY, JANUARY 17.—An adjourned meeting was held to-day—the President in the chair.

The Committee for procuring a site for a new hall made a report accompanied with resolutions which were accepted, and the Committee requested to continue their efforts to procure a suitable location. They were also authorized to apply to the Legislature for permission to hold real estate to the value of \$250,000.

M. P. Wilder from the Committee for that purpose made a report accompanied with the following resolutions:—

Resolved, That the thanks of the Society are due to its late President Hon. Joseph Breck, for the ability, impartiality, and fidelity, with which he has discharged the duties of the chair for the last four years.

That a Committee of three be appointed to purchase a piece of plate, or other testimonial of the value of \$150, and cause a suitable inscription to be placed thereon, and present the same to Mr. Breck in behalf of the Society, as a token of the regard and esteem of its members.

The report was accepted and the same Committee appointed to attend to the execution of the same.

C. A. Putnam, Salem, B. A. Wilson and E. Appleton, were elected members. Adjourned two weeks to March 7.

MARCH 7.—An adjourned meeting was held to-day—the President in the chair.

M. P. Wilder presented 20 copies of the Proceedings of the American Pomological Society, which were placed in the hands of Library Committee.

M. D. Ross, Charles M. Wetherell, H. Hammond Cole, and Russell P. Eaton, were elected members. Adjourned two weeks to March 21.

MARCH 21.—An adjourned meeting was held to-day, the President in the chair.

Captain Austin from the Committee appointed to settle with Mt. Auburn Cemetery, presented the following report:—

The total amount of sales for 1862, was	-	-	-	\$17,726 86
Add for single interments 1861,	-	-	-	450 00
“ “ 1862,	-	-	-	362 00
				\$18,538 86
Deduct Expenses,	-	-	-	1,400 00
				\$17,138 86

One quarter of which is 4,284 74, which had been paid into the hands of the Treasurer. Meeting dissolved.

APRIL 1.—The stated Quarterly Meeting of the Society was held to-day, the President in the chair.

M. P. Wilder from the Committee to whom was referred the subject, reported that a piece of plate of the value of \$100 be presented to E. S. Rand, Jr., for his services as Chairman of the Library Committee.

The report was accepted and \$250 appropriated for this purpose and the presentation of plate to Hon. Joseph Breck.

The President then read the following interesting letter addressed to him:—

Charles M. Hovey, Esq., President Massachusetts Horticultural Society:

Dear Sir: I have placed in the hall of the Massachusetts Horticultural Society a bust, by Henry Dexter, Esq., of Cambridge, of our valuable associate, the Hon. Marshall P. Wilder, and offer it for the Society's acceptance. In thus preserving the portrait of one whose labors have so long been freely devoted to the interests of our Society, it seems proper to recall the variety and extent of his services.

For more than thirty years Col. Wilder has been connected with this Society, and has not only given liberally of his money, but has devoted his time and influence to the furtherance of its objects. Beginning at a time when the importance of such a Society was not appreciated, and its objects seemed almost visionary, he has seen it gradually rising in public estimation, and exerting a constantly increasing influence among the landholders of New England. He has seen the fruit of that influence in the taste which embellishes the residence of the wealthy—in the enterprise and intelligence which have elevated the position of the farmer, and in the improvement in every branch of husbandry which has so grandly increased the national wealth.

Whilst the Society has been the inciting power of these important movements, it has been compelled to struggle with the difficulties attendant upon all pioneer enterprises. Its friends may at times have been discouraged, its means have been curtailed, and its prospects obscured. Colonel Wilder has deserved the thanks of the Society for persevering in its support, and in one instance at least—the case of the Mt. Auburn Association—for having made such wise and prudent arrangements as have secured a permanent fund for its purposes.

I need hardly add that Col. Wilder's connection with this Society is not his sole claim to public distinction. He has repeatedly been called upon to occupy offices of trust and responsibility, and has ably discharged the duties devolved upon him. As a merchant he has given a notable example of integrity and ability, and his personal character needs no encomium from us, who have been intimately associated with him. The particular interest, however, which Col. Wilder has always evinced in the success of this and kindred societies, renders this a peculiarly fitting place to present such a memorial. I have therefore to request you, in behalf of the Society, to receive this bust and to assign it a fitting location, in order that it may remain surrounded by the emblems of the pursuits in which he has delighted—as a memorial to us and our successors of our appreciation of the character and labors of Marshall P. Wilder, and wishing, my dear sir, that your administration may prove as fruitful of good to the Society as have those of your predecessors, I remain yours faithfully,

(Signed)

C. O. WHITMORE.

Mr. Leander Wetherell of Boston, then asked leave of the President to

read the following resolutions, which he desired to offer for the consideration of the Society, which was granted :

Resolved, That the members of the Massachusetts Horticultural Society gratefully accept this appropriate gift of C. O. Whitmore Esq., and we do hereby tender to him our cordial thanks for his most generous, tasteful, and elegant donation to this Society.

Resolved, That as members of the Massachusetts Horticultural Society, we are highly gratified in being able to add to our valuable collection of ornamentations, so fine a marble bust of one who, for more than thirty years has been an active member, patron, friend, and constant benefactor of our Society ; for eight years its President, in which time Horticultural Hall was built—to whose conservative, conciliatory, and wise influence the Society is largely indebted for that amicable settlement with the Mount Auburn Cemetery Corporation, from which a large income has already been received, and by which a perpetual revenue is to accrue to its funds ; nor would we, as members of this Society, be unmindful, that in thus honoring our own fellow citizen, that we are paying deserved homage to one who has richly earned for himself a national reputation by serving the United States Agricultural Society six years as its efficient President, and also as President of the American Pomological Society for the last twelve years, which office he still fills.

Resolved, That the Secretary be requested to prepare and furnish copies of these proceedings to the Magazine of Horticulture, to the Agricultural and daily papers of the city for publication.

On motion it was voted that 25 copies of Mr. Burr's new work on the Garden Vegetables of America, be purchased by the Society, four copies of which to remain in the Library and the others to be offered as premiums. \$100 were appropriated for this object.

Albert Tolman, B. Spindler, G. W. French, and G. W. Ireland were elected members. Adjourned one month to May 2.

Horticultural Operations

FOR MAY.

FRUIT DEPARTMENT.

THE month of April has been mild and favorable, without severe frosts, though backward in the early part. Vegetation has not advanced much, and frost in May will not be likely to do much injury.

GRAPE VINES, in the early houses, where the fruit has been cut, will require but little attention, simply keeping the house well aired to ripen the wood thoroughly. Vines in ordinary graperies will now be coming into flower, or just setting their fruit, according to the temperature last month. If now in flower keep the house warmer and drier. If the fruit is well set, damping down the house, morning, noon, and night, should be continued,

and a genial moist atmosphere maintained. Stop the laterals, as they require it, and tie them in carefully. Vines in cold houses should have good attention, as neglect or cold draughts of air would be likely to bring on mildew. Air early, and close early in the afternoon. Hardy vines should be tied up to the trellis; and if yet unpruned it is not too late; if they bleed it will do no injury.

PEACH TREES, in pots, now swelling their fruit, should be watered more liberally. Attend to pinching in the laterals. Young trees, for a fresh stock, may now be planted.

ORCHARD-HOUSES will now present a beautiful appearance, with the trees covered with blossoms. Ventilate as freely as possible, both night and day, in favorable weather, as on this depends the setting of the fruit.

STRAWBERRY BEDS may be made, and the plants set out now; it is the best time. Manure heavily, and spade deeply. Old beds may be top-dressed with any old decayed manure, sufficient to cover the roots, which are often thrown out some by the winter.

RASPBERRIES should be tied up to stakes, and pruned, heading them down to four feet.

BLACKBERRIES should have the same treatment; unless this is done now the vines are so thorny that it will be impossible to gather the fruit.

GRAFTING may be done all this month.

PRUNING may continued all the month.

FLOWER DEPARTMENT.

The mild weather of April has given an opportunity of free ventilation, and plants now look unusually vigorous and healthy. The houses should now be brilliant with geraniums and azaleas, which will continue in flower till the middle of June. Begin to remove hardy stuff into the open air, such as laurustinus, rhododendrons, &c., so as to make more room for flowering plants. Small stock may also be put into frames, which will give them a stocky habit, and healthy growth.

PELARGONIUMS, now coming into bloom, will still require attention. Continue to turn specimen plants often, that they may receive the benefit of the light on all sides; and give them more room, as the flowering branches extend. Water more liberally, and occasionally with liquid manure. Shade from the hot sun, in the middle of the day.

AZALEAS, kept cool, will now be coming into full bloom, and will make a superb show. Syringe often till the flowers are out, and keep the house damp at all times; water more liberally; shade from the hot sun. Tie in the shoots to present a handsome symmetrical shape. Young stock may be repotted, and plants, done blooming, encouraged to make new wood.

CAMELIAS, now making their growth, should be syringed every day, and have plenty of air. Water more liberally for a week or two.

CINERARIAS, now in full bloom, should be kept cool, and free from the green fly.

CHRYSANTHEMUMS should now be propagated, and young stock, already growing, put into larger pots. Remove to a frame.

CHINESE PRIMROSES may now be removed to a cool frame.

HEATHS will now begin to bloom, and require to be kept in a cool airy place. Water more liberally, and syringe occasionally. Young stock may be repotted.

EPACRIS should be headed down, and placed in a frame until they begin to break, when they should be repotted, or planted out in the open ground.

BEGONIAS will need repotting; keep in a half-shady place.

JAPAN LILIES will require larger pots.

CYCLAMENS should be removed to a cool frame, shading them for a time from the hot sun.

PONISETTIAS should be headed down and repotted; keep in a warm house, and rather dry for a time.

BEDDING STOCK should all be removed to a frame.

BEGONIA VENUSTA should now be headed in, and watered more freely, to encourage the new growth.

GLOXINIAS AND ACHIMENES should be potted, or repotted, if already growing; give them a warm place, half shaded.

CALADIUMS should be repotted.

CACTUSES should be watered more freely, as they begin to bloom.

FERNS should be divided and repotted, if not already done.

FLOWER GARDEN AND SHRUBBERY.

The lawn begins to present a deep green verdure, and, with a few days of fine weather, will be in condition to cut. Attend now, whilst the ground is moist, to the rolling, which should be repeated till a hard even surface is obtained. Rake and clear the walks, and roll often. Continue transplanting, wherever vacancies occur, or new shrubs are wanted.

TULIPS AND LILIES will now be up two or three inches, and the ground should be carefully stirred with a stick or trowel, to loosen the surface.

GLADIOLUS may be planted any time this month. Prepare the ground by the addition of leaf mould, or very *old* decayed manure.

CARNATIONS AND PICOTEEES should be removed to the beds or borders, where they are to bloom.

DAHLIAS may be planted out the last of the month.

HERBACEOUS PLANTS may be transplanted safely.

PHLOXES should be divided and reset.

PEONIES, as they advance in growth, should be supported by a neat stake, as the weight of the flowers will bend them to the ground.

ANNUALS, of all kinds, may now be planted.

ASTERS, BALSAMS, and similar Annuals, raised in frames, may be transplanted to the border the last of the month.

BEDDING PLANTS may be set out the latter part of the month.

ERYTHRINAS should be planted.

CANNAS may be potted and pushed forward, in a frame, if large specimens are wanted.

ROSES should be pruned, if not already done.

BOX EDGINGS may now be taken up, and reset.

THE RHODODENDRON AND AZALEA.

THANKS to the good taste, the untiring zeal, and the great liberality of one of our amateur cultivators of beautiful shrubs and trees, that the rhododendron and azalea, so long neglected by all, are henceforth to become objects of especial attention, and have a prominent place in our exhibitions, which they so justly merit. We have time and again called the attention of amateurs to these noble shrubs—we have given various articles upon their culture—and copied others from the best sources; so that the best information that could be obtained might be available to all. Happily, we have at last been aided in our endeavors, by one who fully appreciates their great beauty, and has contributed of his valuable experience to our pages. It is scarcely necessary that we should recall to our readers the name of the author, H. H. Hunnewell, Esq., of Wellesley, near Boston, whose residence we have so frequently noticed. His extensive grounds have been profusely planted with rhododendrons, kalmias, and azaleas, and he has spared no pains to make his collection rich and effective. Possessing the material for their luxuriant growth, and the knowledge to use it advantageously, he has converted a naturally poor soil into one of almost the native character for these shrubs.

So much gratification as these afford him he wishes others to share; and having given his long experience to the public, he now comes forward and places in the hands of the Massachusetts Horticultural Society, a munificent gift that will enable it, in all future time, to extend the taste for all fine trees and shrubs, and especially the rhododendron and azalea, the object being to award special premiums for the rhododendron, and other ornamental trees and shrubs.

For more than twenty years we have advocated the culture of these shrubs; and until we had the aid of Mr. Hunnewell, we do not recollect of but one instance during this long period where any cultivator has attempted to assist in bringing these plants into notice, or has ever made their culture a speciality.

Ever since our tour through the English nurseries, particularly those devoted to "American plants," we have felt assured that a shrub growing naturally and beautifully throughout Massachusetts, must become as popular and generally admired as in Europe. The impression was, and still is very general, that they are not hardy; but the fact just noted disposes of this; yet there is a seeming truth in it, for heretofore all our plants have been, and many still are received from England, and the sorts heretofore sent, because easiest cultivated, have been the semi-hardy kinds, which only grow up in summer to be killed down again in winter, without ever seeing a healthy foliage or a single bloom. Had the perfectly hardy sorts been planted, they would have grown and flourished and their beauty long ago made them better known. It is one of the results of our dependance upon Europe for plants.

When it is understood that the English and Continental cultivators have been for years improving the rhododendron, some idea may be obtained of its popularity. Millions of seedlings are raised and planted; every country residence of any pretensions has them by hundreds and thousands, in banks and thickets, by the sides of avenues, in gardens especially appropriated for that purpose, and as single specimens on lawns. Everywhere they are planted, their broad, deep-green foliage, being highly effective and ornamental, even without flowers; simply as an evergreen shrub it would bear introduction everywhere. But when we know that in the abundance of bloom, and the variety of coloring they eclipse all other shrubs, we can form a comparative estimate of their value.

The magnificence of these plants admitted, and knowing that they are natives of this country, growing as far north as Maine, there can be no question about their hardiness. If we have heretofore received and planted half hardy kinds let the error at once be corrected. There is so much difference in regard to hardiness in Europe that it is not the least guide here. They vary in this respect from the *tender* Asiatic and Himalayan species, injured by the first frost, to our native species resisting 40° below zero. Every grade of hardiness may be found; some will stand one winter that will get killed

another; some always get their foliage browned; others lose their flower buds; by hybridization all these intermediate grades of hardiness have been obtained, and an imported plant can only be proved after a trial of three or four years, too long to wait and suffer disappointment in the end.

Now, what we need, and what we trust will be the effect of Mr. Hunnewell's liberality, is the production of American seedlings, starting from a selection of the PERFECTLY HARDY hybrids obtained from Europe, or from our native *R. maximum*, and thus to raise up a tribe inured to all the vicissitudes of our climate—never failing, unless under extreme causes—and which every cultivator may rely upon. Such as will maintain their elegant foliage without blemish, flower abundantly, and possess both size of bloom, fulness of truss, and variety, as well as richness or delicacy of coloring, spotting or shading. Our experience of twenty years, during which time we have raised many thousand seedlings, proves that all that we have named can be achieved; it only requires the very stimulus which is now so happily offered, and in a few years our gardens will be enriched by rhododendrons and azaleas of exceeding beauty, and of equal hardiness with the hardiest shrub.

The azalea though deciduous is in no way inferior to the rhododendron, while it possesses the capacity of adapting itself to a greater variety of soils; the heavy foliage of the rhododendron requiring more constant moisture than the azalea, it suffers more quickly when that is wanting. The azalea, too, contains more variety of coloring; indeed few plants are richer in this respect, the colors varying from white through every shade of buff, salmon, yellow, fawn, orange, pink, rose, and scarlet, often with combinations of two or more tints.

Like the rhododendrons there is much difference in their hardiness. The large flowered *A. pontica*, conspicuous for its yellow blossoms, is injured more or less every winter, the flower buds being killed and the young shoots injured; and many of the imported seedlings, with too much of the *pontica* breed in them, suffer in the same way; this is perplexing to the cultivator and dissipates the fond hopes of a fine display of blossoms. *A. calendulacea* is our native southern species, quite hardy,

though not quite so showy as the *pontica*, the flowers being smaller and paler yellow; and this should be the parent for yellow tinted sorts.

The month of June is the season of their flowering, and Mr. Hunnewell's collection will well repay a visit; our own collection may also be found highly attractive with many thousand flowers. All who would witness one of the most magnificent floral exhibitions should not fail to see the rhododendrons and azaleas.

In due time, we have no doubt the Massachusetts Horticultural Society will offer such premiums as will accomplish the object of Mr. Hunnewell's gift.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

ON PROTECTING THE STEMS OF FRUIT TREES FROM FROST IN EARLY SPRING. BY T. A. KNIGHT. FEB. 1825.

THE blossoms of fruit trees fall off abortively in some seasons and produce much fruit in others, in which the weather, relatively to temperature and moisture, has been nearly the same during the flowering season of such trees; and it is in very favorable or very unfavorable seasons only, that the gardener can, with any degree of precision, pronounce what portion of his blossoms will produce fruit. If a larger part of it than he expected proves abortive, he generally attributes its falling off to something which he calls a *blight*, and which he supposes to be the operation of some unknown noxious quality of the atmosphere, during the season in which his trees have been in blossom.

Many circumstances having come under Mr. Knight's observation, he was led to draw a different conclusion, and to believe that whenever a very large portion of the well organized blossom of fruit trees falls off abortively, in a moderately favorable season, the cause of the failure may generally be traced to some previous check, which the motion and operation of the vital fluid of the tree has sustained.

It is well known that the bark of oak trees is usually stript off in the spring, and that in the same season the bark of other trees may be easily detached from their alburnum or sap-wood, from which it is, at that season, separated by the intervention of a mixed cellular and mucilaginous substance. This is apparently employed in the organization of a new layer of fibre, or inner bark, the annual formation of which is essential to the growth of the tree. If, at this period, a severe frosty night or very cold winds occur, the bark of the trunk, or main stem of the oak tree, becomes again firmly attached to its alburnum, from which it cannot be separated till the return of milder weather. Neither the health of the tree, nor its foliage or blossoms appear to sustain any material injury by this sudden suspension of its functions; but the crop of acorns invariably fails. The apple and pear tree appear to be affected to the same extent by similar degrees of cold. Their blossoms, like those of the oak, often unfold perfectly well and present the most healthy and vigorous character, and their pollen sheds freely. Their fruit also appears to set well; but the whole, or nearly the whole, falls off just at the period when its growth ought to commence.

It is near the surface of the earth that frost, in the spring, operates most powerfully, and the unfolding buds of oak and ash trees, which are situated near the ground, are not unfrequently destroyed, while those of the more elevated branches escape injury. Hence arises, he thinks, a probability that some advantages may be derived from protecting the stems, or larger branches of fruit trees, as far as practicable, from frost in the spring; and the following facts appear to support this conclusion.

A gentleman pointed out to Mr. Knight an apple tree, which having had its stem and part of its larger branches covered by evergreen trees, had borne crops of fruit in regular succession; while other trees of the same variety and growing contiguously in the same soil, but without having had their stems protected, had been wholly unproductive. He subsequently saw in the garden of one of his friends a nectarine tree, which having sprung up accidentally in a plantation of laurels, had borne as a standard tree three successive crops of fruit. The

possessor of it, intending to promote its health and growth, cut away the laurel branches that surrounded its stems in the winter of 1823-4, and in the succeeding season not a single fruit was produced.

Mr. Knight planted some years before, in his garden, under a wall in a northeast aspect, and shaded by a contiguous building, a common Chinese rose tree (*Rosa Indica*) and a plant of Irish ivy. Both of them rose considerably above the top of the wall—thirteen feet high; and the rose tree, of which the stem was wholly covered by the branches and foliage of the ivy, has annually produced more abundant flowers, and exhibited symptoms of more luxuriant health, than any other tree of the same kind in his possession. The soil in which it grew was poor and unfavorable; and he was unable to discover any cause, except the protection it received, from which it derived its luxuriant health and growth. He thinks these facts show the advantage of that sort of protection which evergreens afford, in close proximity to fruit trees.

ON BUDDING, GRAFTING, AND CULTIVATING ROSES. BY DR. VAN MONS. MAY, 1824.

It was formerly believed that the rose could not be propagated by grafting, and that budding must be employed for that purpose; but Dr. Van Mons proved this to be an error. For grafting, scions were used of such a thickness, that when fitted they may equal the stock in diameter; by making the slip shoot of the axis of the stock, the slenderest scions may be used. The scion is to be cut on both sides so as to form an elongated wedge, and the bark of the stock must be made to fit the graft on both sides. A ligature is afterwards applied of fine bass, made water proof by pressing it first through a solution of white soap, and next through one of alum. The ligature is finally covered with a coat of marly clay mixed with old slacked lime, and moistened with white of egg beat up with four or five parts water. This material is applied with a hair pencil. The best stocks for this mode of grafting are the shoots of any kind of garden rose.

They employ in Flanders the same mode of grafting with the dog rose, only taking the precaution that the cleft be of

sufficient depth to allow the cut edge of the scion, which is immediately above its cut part, to rest firmly upon the wood of the stock. The ligature in this case is of bass, and it is covered with white mastic made of Burgundy pitch, white wax and boiled turpentine, with or without a little white size. Black mastic imbibes heat too much when exposed to the sun.

The rose may be budded very well in the spring, if the buds are extracted with a small portion of wood adhering to them. For this purpose scions are cut before winter and stuck into the ground, till the moment when in spring the bark of the stock will run. To prepare the bud they make, first, a transverse cut into the wood a little below an eye, which incision is met by a longer cut downwards, commencing at a short distance above the eye, care being taken that a portion of wood is removed with the bark. This bud is inserted into the bark of the stock, which is cut like an inverted T. The horizontal edges of this cut in the stock and of the bud, must be brought into the most perfect contact with each other, and then bound with water proof bass, without, however, applying grafting clay. Eight days after the insertion of the bud the stock is pruned down to the branch which is immediately above the bud on the opposite side, and this branch is stopped by being cut down to two or three eyes. All the side wood is destroyed, and when the bud has pushed its fifth leaf, it is compelled to branch by pinching its extremity. It will then flower in September of the same year.

You may also bud the rose in the spring without waiting till the bark separates, by placing the bud with some wood on it in a niche made in the stock, similar to what would be formed by taking an eye for budding from it, in the manner above described, and into which it is fitted exactly with a slight pressure. It is recommended to make the cut for the niche where there is already a bud on the stock; when placed, the bud is then bound with bass and covered with mastic.

Whatever be the period when the budding is done, if the plant be well pruned on all its branches, the bud does not fail to push. The scion of a rose tree is seldom too dry to take, when the bud is inserted with a thin bit of wood behind its eye. Dr. Mons has thus budded successfully from scions that

had remained in a drawer for ten days. When cuttings for buds are to travel, he was in the habit of packing them in long grass, surrounding them with straw disposed longitudinally.

Roses are generally grafted not more than six inches above ground, first, that the whole head of the bush may be exposed to the eye of the observer, and secondly, because the union is more certain, and the plant keeps the earth about it moist by its own shadow. Besides, it often happens in bending down the stem of high plants to see their flowers, that their stem is injured and the buds displaced, by minutely examining them.

At the pruning season, the branches of the budded plants which are formed into a head, are annually cut down to nine inches in length, and the same thing is done with roses which are not budded. A great deal of young wood is thus obtained, and a bushy plant as well as a large number of flowers. The pruning is performed at the end of January (in Flanders;) all the four year old wood is cut entirely back, and the plants themselves are taken up and renewed at the end of eight years. Whenever they wish to make their roses flower in the autumn, they prune them back in the spring as soon as their flower buds can be discovered.

In order to obtain stocks they take from the woods and hedges suckers of the dog rose, which is very abundant in Flanders, and which, like every other tree or shrub increasing itself spontaneously, has its roots bent like that of a layer. They select plants without lateral branches, and take them up before winter, and cut down the stem to a foot and a half in length. The stocks make suckers usually the year after budding; but afterwards in greater quantity. They do not destroy these suckers, but in the following spring they lay them down to the depth of an inch or more, and leave only the end of the sucker above ground. Each eye forms a cluster of roots, and furnishes a very fine stock, which is taken up after winter.

MODE OF CULTIVATING CHINESE CHRYSANTHEMUMS IN THE GARDEN OF THE HORTICULTURAL SOCIETY. BY DONALD MUNRO. JANUARY, 1826.

In the beginning of April, a certain number of cuttings of each sort of chrysanthemum in the collection are taken from the supply of flowering plants for the ensuing season. The

cuttings are taken from the top shoots of the last year's plants. The pots used for the cuttings at first, are those called about London, small sixties. They are filled with mould made up of one-half equal portions of loam and bog mould, and one-half sand. The cuttings, when prepared, are about three inches long, they are inserted singly one in each pot, and when all are potted, the pots are placed in a frame supplied with a gentle bottom heat. They are kept in the frame until they are well rooted, which is usually in about three weeks or a month. When the plants are fit to move, they are placed in a cold frame to harden a little before they are exposed in the open air; for this it is necessary to take off the lights in the day time, and to close them again at night.

About the first of June the plants are shifted into forty-eight sized pots; they are then arranged in an open airy piece of ground and watered with richly manured water, in which soap suds have been mixed. The pots are never plunged in the earth, as it is found they do equally well without it, and when they are plunged in garden mould, the plants are continually rooting through their pots, and require to be moved every week or fortnight. Besides, the quantity of mould in the pots is so small that it requires frequent watering, and when the pots are plunged watering is often neglected, and the consequence is that the shoots grow weak and small. After the second potting, the tops of all the plants are nipped off to make them bushy, and when they put out fresh side shoots, no more of these are allowed for flowering than the plants are likely to be able to support.

In the month of August the whole are shifted into thirty-two sized pots, which are afterwards arranged in an open airy situation as before, at such distances as to allow the plants plenty of room to grow without touching each others leaves. Here it is necessary that they should be frequently moved, in order to prevent the roots growing through the pots into the earth. It is also requisite that the plants be now tied up to sticks. The compost used in the last potting is strong loam, with about one third of rotten dung. The pots are not taken under glass until they have formed their flower buds, and even until some of the earlier sorts are beginning to expand

their flowers. In setting the plants in a glass-house for show, the varieties are mixed as much as possible.

After all the cuttings that are wanted are taken from the old plants, they are turned out of their pots, the old mould is entirely taken away from their roots and the suckers are rubbed off; they are then potted in forty-eight sized pots, and when they have filled them with roots they are shifted into thirty-twos. In the month of August they are either put into twenty-four or sixteen sized pots, according to their size and vigor. They are generally kept with one stem, but sometimes three or four stems are allowed to rise; each of these is trained to a stick, and when the collection is taken into the house for flowering, the large plants are placed behind the small ones; thus the size of their pots and the length of their stems are concealed from view, while their superior height forms a good back to the whole mass of plants.

ON THE CULTIVATION OF PLANTS IN MOSS. BY JOHN STREET.
JUNE, 1826.

Mr. Street considered himself the discoverer of the plan of cultivating plants in moss, as here developed; and he professed to find it advantageous in many ways, and particularly beneficial to certain kinds of plants. The mosses he used were the several species of *Hypnum*, such as *Hypnum squamosum*, *H. purum*, &c. These he collected in woods from under the bushes, taking up with them the decaying stalks and leaves which are mixed with them. Sometimes he added about an inch of the surface of the vegetable mould which is under the mosses, to mix with them in the pots.

The mosses so collected are pressed closely into the pots, and the plants are put into them as if into mould. For some plants he found it useful to add a little loam to the mosses, in other cases sharp sand, which is sometimes preferable to the loam. If the plants required manure he gave it in a liquid state. As the mosses decay the mass becomes more compact, and he then filled up the top of the pot with fresh material; but if the roots are much at the lower part of the pot, he preferred making the addition at the bottom.

Among the plants which he cultivated in mosses he mentioned the *Canna Indica*, and *C. patens*, *Calla Ethiopica*,

Agapanthus umbellatus, *Hydrangea hortensis*, *Disundra prostrata*, *Justicia nervosa*, *Gorteria rigens*, *Pelargoniums*, *Cinerarias*, &c. Some plants do better and flower earlier and more vigorously in mosses than in mould; such as *Eucomis striata*, *E. punctata*, and others. The roots of all plants when put into mosses spread and increase surprisingly, especially such as require to be kept wet, for the mosses retain moisture longer and more uniformly than mould.

In his practice he found several particular benefits in using pots thus filled with mosses, in preference to mould. They are lighter and moved with greater readiness, and in large sized pots the risk of breaking them from their weight when they are moved is less. Pots of ornamental plants which are to be placed in the apartments of a house, have great advantage when filled with mosses, for besides the facility with which they are moved, they make no dirt on the floor. In sending plants to a distance, those which are rooted in mosses travel admirably, they turn well out of the pots, and the roots are so mixed with the mosses that they do not separate from them, as they would from mould.

He succeeded in striking cuttings of many plants in mosses, such as *Aucuba Japonica*, *Hibiscus Rosa Sinensis*, *Buddlea globosa*, &c., and these make roots very freely and much faster than they do in mould. He recommends the general adoption of the plan for cuttings.

Among bulbs, he found the Yellow Crocus to succeed perfectly, and to flower very freely when so treated. He did not succeed with Hyacinths. The varieties of polyanthus *Narcissus* bloomed well, when grown with a portion of mosses in the pots. Some of the Cape gladioli also succeeded well. He recommends moss to protect tender plants in open borders in winter.

POMOLOGICAL GOSSIP.

STRAWBERRIES.—In our late notice of the Proceedings of the American Pomological Society, we had no room to give an abstract of the discussion on strawberries. As it may interest many cultivators, we complete the notice here.

Mr. Wm. R. Prince submitted a paper, on the sexuality and physical structure of the *Fragaria*, which was referred to the Publishing Committee, and appears in the volume.

LENNIG'S WHITE PINE APPLE.—Mr. Prince spoke well of this variety; but other members did not appear to know it.

LA CONSTANTE.—Mr. Parsons wished to have an expression of *La Constante*. Mr. J. F. C. Hyde said it produced a large crop of good quality; he could not say how valuable it might be for market, but was highly favorable to the amateur. It was far superior to *Triumph de Gand*. Mr. Prince said it was delicious; Mr. C. M. Hovey thought it the best of all the foreign strawberries yet introduced, and a remarkable variety.

TRIUMPH DE GAND.—Mr. J. W. Manning said that under the same treatment of other kinds it does not compare with them—on a light sandy loam. Dr. Houghton said it had done well in Philadelphia; the old growers still adhered to the *Hovey*. Mr. F. R. Elliott had found it a good berry (not excellent) in very different positions. Mr. Hyde was disappointed in the crop; the berries were homely, compared with *Hovey*, or *La Constante*. Mr. Adams of Maine, said it produced only half as much as the *Wilson*, but is handsome, and commands a better price. Mr. Lyon said that in Michigan they were trying to find something better than the *Wilson*, but did not think they had it in the *Triumph de Gand*; it was not the berry for the million.

Mr. Reid of New Jersey, thought it had been over estimated. It was only a moderate bearer, but great grower. Mr. Prince said it was a profitable plant to the nurseryman, as it multiplied so fast. He found it bore only about half the crop of *Hovey* or *Wilson*. He said the stories about strawberries bearing 300 or 400 bushels to the acre were ridiculous. Mr. C. M. Hovey thought it about time after eight or ten years to know something decisive about this variety. It was only a second rate fruit; and he was anxious to know what it had done after the second year? Mr. H. E. Hooker said the *Triumph de Gand* pleased him; but that it must be sold when high prices can be had. He would never raise them for fifteen cents a quart. Mr. Barry had grown it eight or ten years, thought it had great excellence; that

it might not be so profitable as some other kinds. It stood the sun and winter well, and was a beautiful strawberry.

RUSSELL'S SEEDLING.—Mr. J. J. Thomas had seen it in the city of Auburn; the berries were about twice the size of Wilson's; perhaps superior to the Wilson in productiveness. He only saw it once. Mr. Prince thought it was not much to say it was superior to the Downer or Wilson. It was soft and acid.

WALKER'S SEEDLING.—Mr. Prince said it was not productive. Mr. Bourne of Rhode Island, cultivated, and liked it. The President said it was a good flavored fruit, but was not fit for the market.

BARTLETT.—Mr. Bergen said he had seen it in bearing, and did not think much of it. Mr. Prince said it is very unproductive unless grown in hills. He thought it was the Brighton Pine. Mr. Parsons said it was similar in flavor to the Boston Pine. Mr. Elliot said the foliage did not resemble the Brighton or Boston Pine; but that the fruit resembled the latter; he regarded it as nothing remarkable. The President had the strawberry, but had not examined it critically.

CUTTER'S SEEDLING.—Mr. J. W. Manning thought it would bear more bad treatment than any other variety. Mr. Hyde said his neighbors had ploughed it up. Mr. Prince thought it a very good plant. Mr. Parsons said it bore abundantly. Mr. Clement said it was very prolific, rather pale; but sold well in the Lowell market. Mr. Hovey said the Bunce was the same.

HOVEY'S SEEDLING.—A long discussion elicited nothing new. Messrs. Moore, Dewey and others, of Conn. said they could not get along without it. Mr. Hooker had not succeeded with it at Rochester, nor Mr. Bergen at Flushing. Dr. Houghton said in Philadelphia it has been the leading berry, and he could not induce his neighbors to plant any other sort. Mr. C. M. Hovey said these occasional instances of unproductiveness, &c., which had been alluded to, were owing to a mixture of spurious varieties or improper fertilization. He detailed the mode of cultivation pursued at Belmont where the crop was immense and certain.

This closed up the strawberry discussion.

BOURBON ROSES.

BY WILLIAM PAUL, NURSERIES, CHESHUNT.

THE Bourbons are among the most beautiful as well as the most desirable of the free flowering summer roses. If they are not quite hardy, they make up for this defect in their abundant bloom, the delicate tints of many and the dark rich colors of others—shades not yet obtained in the hybrid perpetuals; and they have this merit over the Teas and Bengals, that they are so hardy they may be wintered in a frame with perfect safety.

No rose, considered as a whole, has yet rivalled the *Souvenir de la Malmaison*, the best type of the Bourbons; and for beautiful form and delicacy of shading, what can be better than that old favorite, *Mrs. Bosanquet*? If to these we add *Gloire de Dijon*, classed both as a Bourbon and Tea, and by some as a *Noisette*, having the foliage of the former, the odor of the Tea, and the rampant growth of the latter, we may justly estimate the claims of the Bourbon roses; but the continued effort of French cultivators is extending this class as well as others, and we know not what riches are yet in store.

For bedding out no roses give more satisfaction. They may be wintered in a frame either in or out of pots, covering both roots and plants with *dry* leaves, to the depth of 4 or 5 inches, and protecting with shutters or boards so as to keep out all rain. In the month of May they may be turned out into beds thoroughly enriched with good old manure—for they are great gourmands—pruned short, and from July to October they will be covered with their rich and fragrant flowers. In October or November remove them again to the frame as before, protecting in the same way; if flowers are wanted in winter, pot such as are needed and keep in a frame in the same way till January, when they should be pruned short and removed to the greenhouse, where they will bloom in March and April, and in May again turned into the ground, to be treated like those from the frames.—ED.

The BOURBON PERPETUALS form a small but beautiful group of roses, embracing those hybrid perpetuals of some cata-

logues in which the features of the Bourbon rose predominate. In other words they approach nearer to the Bourbon than to the hybrid perpetual, but are distinct from both. The flowers are remarkable for their circular outline; they are not very large, but are more than usually abundant. The growth is moderate, and the foliage fine and handsome, remarkable for the breadth of the leaflets. The varieties are best suited to form low standard, dwarf standard, and bush roses, and if planted in a rich soil and pruned closely, they bloom constantly and well throughout the summer and autumn. Baron Gonella is one of the best of this group; the flowers are pink and lilac shaded, large, full, and beautifully cupped; the petals are large, well rounded at their circumference, and of unusual substance. Baronne de Noirmont is also a good rose, deeper and brighter in color than the preceding, and very sweet, but not so prolific. Catherine Guillot is a gem, fine everywhere, but especially so under glass; the flowers are pink, of good average size, and quite full; the form perfect. Comtesse Barbantanne is a flesh-colored flower, large, full, and distinct, of hardy habit and vigorous growth. L'Avenir has glossy pink flowers, large, full, and beautifully cupped; the growth is vigorous, the foliage fine. Lord Palmerston is an exceedingly pretty rose, with flowers of an empyreal brightness, which the pen of the writer and the pencil of the artist have hitherto alike failed to reach; bright rosy cherry color is an approximation to the description; the flowers are neither large nor full, but they are nicely formed, produced abundantly, and very sweet; the effect of the tree in the garden, when in full bloom, is brilliant in the extreme. Louise Odier is a good hardy sort, with bright rose-colored flowers, a first-rate pot rose, and excellent either as a standard or bush. Madame Bruni is not so well known as it deserves to be; the flowers are peach-color, provence scented, large, full, and of good form; a good show rose when well grown. Mademoiselle Thérèse Appert is a peach-colored flower, large, full, and nicely cupped; a free and constant blooming rose of moderate growth. Marguérite Appert is a pretty and distinct rose; flowers blush, tinted with lavender, large and full. Modèle de Perfection is in its best state, one of the loveliest roses I

have yet seen ; it must, however, be grown well to realize this character, for it is apparently not the freest of the group ; the flowers are lively pink, large, full, and globular. Reynolds Hole is a distinct and desirable sort ; the flowers are pink, increasing in brilliancy as they advance in age ; the petals are large, well formed, and of great substance, but not very numerous ; the foliage is fine.

The ROSE DE ROSOMENE is a new group formed by the withdrawal from the Hybrid Perpetuals of certain varieties which differ therefrom in general aspect. In the last group are some of the most perfectly formed roses grown ; in the present are some of the most brilliantly colored. They are mostly of free growth, and such are the very best of high colored wall roses ; a few, however, are of dwarf growth, and these are equally desirable for the garden generally, or for beds on lawns. As the colors of the different varieties so nearly resemble each other it seems unnecessary to describe them individually ; for walls or palings, Desgaches, Eclair de Jupiter, Gloire de Rosomène, Mdle. Haiman, Oriflamme de St. Louis, Princesse Mathilde, and Souvenir de Montceau, are the best ; for beds and borders, Comte d'Eu, Comte de Faloux, Léonice Moise, and Louis XIV., may be safely recommended.

The BOURBON ROSES are, in my judgment, in nowise depreciated by the newly arisen splendor of their kinsfolk, the Hybrid Perpetuals. It is a quieter but not lower order of beauty which greets us here. They are not so well suited for show roses because they lack size ; but they are many times more valuable for those gardens where roses *must* abound in autumn, because they flower much more abundantly at that season. Few of the Hybrid Perpetual roses bloom freely, some not at all, late in autumn ; whereas the Bourbons flower best and freest at that season. If the plants are pruned closely in spring, and the soil kept rich and moist, so that they be kept growing, flowers bright, sweet, and plentiful, will be sure to follow. Acidalie, the first on my list, is not so pure in blood as some, being hybridized, possibly with the Provence rose ; it is nevertheless very desirable, being a good globular shaped white rose, of vigorous growth, very sweet, and bloom-

ing tolerably freely in the autumn. *Armosa*, which has a little of the Chinese blood in it, is one of the most prolific of autumn roses, yielding its pink flowers almost without end. *Aurore du Guide* produces handsome flowers, sometimes purplish violet, sometimes crimson scarlet; one of the finest of the group, but rather shy and uncertain. *Bouquet de Flore* is a good hardy free kind, old enough it is true, but still most desirable; the flowers are light glossy carmine, large and double. *Comte de Montijo* is a pretty free-flowering variety, rich reddish crimson, sometimes shaded with purple. *Dr. Leprestre* has brilliant purplish flowers, sometimes shaded with red, large and full. *Duchesse de Thuringe* has white flowers delicately tinged with lilac, and usually arranged in elegant clusters. *Dupetit Thouars* is one of those brilliant crimson flowers which one cannot pass by in any garden; it withal, flowers freely to the very confines of winter. *Empress Eugénie* has rosy blush flowers with purplish edges, large and full, and is one of the freest, hardiest, and best. *Ferdinand Deppe* is a good rose, with reddish violet flowers. *George Peabody* came originally from America, and is one of the very few from that country that is worthy of general cultivation; the flowers are rich crimson shaded with purple; hardy, free, and good. *Julie de Fontenelle* is a beautiful rose, similar in color to the last, inferior to it in size, but superior in form. *Justine* is a free blooming sort, with clear rose or rosy pink flowers. *La Quintine* is one of the finest of this group, but uncertain; the flowers are bright crimson, changing to blackish violet, large, full, and of good form. *Madame Angelina* is a rich cream-colored flower with fawn or salmon centre, and is a beautiful and distinct rose of rather dwarf growth. *Marquis Balbiano* is a good, free, hardy sort; flowers rose color tinged with lilac, large and full. *Marquis de Moyra* and *Menoux* are both good sorts of the same color—carmine. *Mrs. Bosanquet* is still a first-rate, free-blooming, late autumn rose, not a true Bourbon, however, but slightly partaking of the Chinese; the flowers are white tinged with flesh color. *Omar Pacha* is a fine brilliant red rose, free and hardy. *Pierre de St. Cyr* has pale glossy pink flowers, of good size and form, and usually abundant. *Queen* is one of the freest and best; flowers

salmon flesh, often tinged with buff; excellent for masses. Reveil is a fine hardy dark variety; its flowers crimson, shaded with violet. Sir Joseph Paxton is of a growth more than usually vigorous; the flowers are bright rose, shaded with crimson, large and full. Souvenir de Malmaison is one of the best roses yet raised, and in place everywhere; the flowers are delicate flesh color, their margins almost white, very large and full; excellent for massing. Souvenir d'un Frère is a very showy free-flowering rose, with brilliant crimson flowers. Vicomte de Cussy is a good rose; flowers cherry color tinged with purple; large and almost full. Victor Emmanuel is a good dark purplish flower shaded with maroon, large and double. Vorace is sometimes fine but rather uncertain; the flowers are dark crimson purple, large and full.

FLORICULTURAL NOTICES.

COLEUS VERSCHAFFELTII.—This is one of the most striking and beautiful of the foliated plants, with almost black crimson leaves, with a very slight tinge of green at the edges. It is far superior to the old *C. Blumei*. It grows rapidly, is easily cultivated in any warm greenhouse, and is worthy of a place in every collection.

NEW ITALIAN VERBENAS.—A new strain of seedlings has at last been obtained. We notice that new varieties are offered for sale this spring, "which are quite distinct from any previously introduced. In growth and habit similar to the bedding kinds, but producing parti-colored flowers, in some instances beautifully mottled, in others striped and flaked, and some with opposite colored margins." Their introduction to our gardens will be a decided gain.

NEW COLEUS.—A new variety, called *atropurpureum*, has been received from Java. It in no way resembles *C. Verschaffeltii*; the foliage is flat and smooth, of thick substance, even in the style of growth, and more robust and branchy, and of hardier constitution than the last named species.

675. NIDULARUM INNOCENTII *Nob.* M. DE ST. INNOCENT'S
NIDULARUM. (Bromeliaceæ.) Brazil.

A stove plant; growing one foot high; with orange-colored flowers; appearing in winter; increased by cuttings; grown in light soil. *Ill. Hort.*, 1862, pl. 3:9.

A very showy plant, with pine-apple-like foliage, and large lily-like flowers, of a deep and brilliant orange, growing freely, and blooming in winter. It was found in Brazil, growing among trees at the summit of the Sierra de Mooro Queimado, and living plants have recently been added to the collection of M. Verschaffelt of Gand. It is a splendid plant. (*Ill. Hort.*, July.)

676. AGAVE SCHIDIGERA *Nob.* SHAVING-BEARING AGAVE.
(Amaryllidaceæ.) Mexico.

A greenhouse plant; growing two feet high; increased by offsets; grown in rich sandy soil. *Ill. Hort.*, 1862, pl. 330.

This is a new and rare species of the Agave, described as "a plant particularly attractive, and highly ornamental, on account of the multiplicity of long snow-white filaments, which can only be compared, from the similarity of their form and texture, to the finest shavings produced by the delicate plane of a clever workman." In habit it is similar to the *A. filifera*, a species yet little known, or not introduced; but if we take the common Agave, and imagine a more slender leaf, covered upon the edges with very long snow-white threads, it will convey the best idea of this new and fine plant.

The Agaves are all the fashion now; the species already introduced exceed twenty-five, all very varied, and distinct from each other. Several of these acquisitions have been made by M. Ghiesbreght, who found them in his botanical tour in Mexico, where they grow upon the arid plains, where rain does not fall for six months of the year. As they are admirably suited for the decoration of the garden in summer, and highly picturesque in the conservatory in winter, we hope to see them more extensively introduced into our gardens. (*Ill. Hort.*, July.)

677. *CAMELLIA COMTESSE LAVIANI* MAGGI. Garden Hybrid.

This is one of the new and beautiful Italian varieties, of which so many have been produced in that favorable climate. It is a large, imbricated and perfect flower, of a delicate blush color, distinctly striped with deep rose. The habit and foliage are good, and it flowers freely. It will be a fine addition to our collections.

678. *SONERILLA GRANDIFLORA* Wall. LARGE FLOWERED SONERILLA. (Melastomaceæ.) Nilgherrie mountains.

A hothouse plant; growing a foot high; with crimson purple flowers; appearing in winter; increased by cuttings; grown in light peaty soil. Bot. Mag., 1863, pl. 5354.

This is said to be "much the finest species yet flowered" in Great Britain. The foliage is green and red above, and purple beneath. The flowers, which are terminal, are of the deepest crimson, tinged with purple. It appears to be a very desirable plant. (*Bot. Mag.*, January.)

679. *TRICYRTIS HIRTA* Thunb. THUNBERG'S TRICYRTIS. (Uvulariaceæ.) Himalaya.

A half-hardy, or hardy plant; growing three feet high; with white spotted flowers; appearing in autumn; increased by division; grown in good rich soil. Bot. Mag., 1863, pl. 5355.

A very pretty plant, found originally by Thunberg, and rediscovered by Fortune, in Japan, who sent home two plants to Mr. Standish, in whose collection it flowered. It forms a slender, hairy, herbaceous plant, three to five feet high, with copious blossoms, which appear on the axils of all the upper leaves, and which are of a pearly white, dotted with clear purple. It is a singular looking, as well as beautiful plant. Coming from Japan it is supposed to be hardy, or nearly so. (*Bot. Mag.*, January.)

680. *PITCAIRNIA PUNGENS* H. B. & K. SPINOSE PITCAIRNIA. (Bromeliaceæ.) New Grenada.

A greenhouse plant; growing two feet high; with orange scarlet flowers; appearing in spring; increased by division of the roots; grown in light soil. Bot. Mag., 1863, pl. 5356.

A very showy species, with long, rather narrow leaves, clothed below with sheaths which have sharp ascending spines. The flowers are linear, of a bright orange red color, and appear on the end of the spike. (*Bot. Mag.*, January.)

681. *CORYSANTHES LIMBATA* Hook. WHITE EDGED CORYSANTHES. (Orchideæ.) Java.

A hothouse orchid; with white and purple flowers; appearing in October; increased by division. Bot. Mag., 1863, pl. 5357.

A minute plant, which Dr. Hooker calls a "perfect gem," growing only an inch or so high: with purple and white flowers. It has only a single leaf and a single flower; but the form is delicate, and the color rich. (*Bot. Mag.*, Jan.)

682. *SEDUM SIEBOLDII* Sweet. SIEBOLD'S STONECROP. (Crasulaceæ.) Japan.

A hardy perennial; growing six inches high; with rose colored flowers; appearing in autumn; increased by division of the roots; grown in good garden soil. Bot. Mag., 1863, pl. 5358.

This is our well-known and fine autumnal plant, so ornamental before the cold autumn frosts, which often injures its beautiful clusters of rosy red flowers. The foliage is thick, fleshy, and ornamental, and it is one of the best of this class of plants. It was introduced from Japan in 1838. (*Bot. Mag.*, February.)

683. *CEREUS PTEROGONUS* Lem. WING-ANGLED CEREUS. (Cactaceæ.) Carthagera.

A greenhouse plant; growing six feet high; with white flowers; appearing in spring; increased by cuttings; grown in rich soil. Bot. Mag., 1863, pl. 5360.

A very showy and fine species of the *Cereus*, producing very large pure white flowers, which open in the day time. The plant is a straggling grower, requiring the support of stakes; the branches are articulated, usually four-angled; flowers sessile, five or six inches long on the tube, and as much more across the full blown pure white flower. (*Bot. Mag.*, February.)

684. *PHÆDRANASSA OBTUSA* Herb. BLUNT PHÆDRANASSA. (Amaryllidaceæ.) Peru.

A greenhouse bulb; growing a foot high; with scarlet and green flowers; appearing in winter; increased by offsets; grown in light rich soil. Bot. Mag., 1863, pl. 5361.

A pretty amaryllidaceous plant, with slender stems, terminated with five or six drooping tubular flowers, scarlet and green, at the tips. (*Bot. Mag.*, February.)

685. *CYPRIPEDIUM HOOKERÆ* Reich. LADY HOOKER'S CYPRI-
PEDIUM. (Orchidaceæ.) Borneo.

A hothouse orchid; with green and purple flowers; appearing in summer; increased by offsets. Bot. Mag., 1863, pl. 5362.

One of the most beautiful of the *Cypripediums*, with the neat green leaves singularly spotted with white, and flowers with green, straw and purple, curiously blended, the wings being purple, dotted, shaded with green, and the lip rich purple. It is a superb plant. (*Bot. Mag.*, February.)

686. *PLUMBAGO ROSEA*, var. *COCCINEA*. ROSE LEADWORT
SCARLET VARIETY. (Plumbagineæ.) Neilgherries.

A greenhouse plant; growing two feet high; with deep red flowers; appearing in winter; increased by cuttings; grown in light rich soil. Bot. Mag., 1863, pl. 5363.

A deep red variety of the old, but not very common *P. rosea*; and every way far superior to it. Specimens furnished by Messrs. Veitch had leaves six inches in length, and panicles of flowers, more than two feet long. This variety was raised from seeds received from the Neilgherries, and appears to be one of the most beautiful and desirable plants. (*Bot. Mag.*, February.)

687. *PHALÆNOPSIS SCHILLERIANA* Reichb. SCHILLER'S PHA-
LÆNOPSIS. (Orchidaceæ.)

An orchideous plant, with white flowers. Illustration Horticole, 1863, pl. 348.

This is considered one of the rarest and loveliest of the orchids, and certainly, if remarkable foliage, added to the most exquisite coloring of the blossoms, could make a plant attractive, this possesses both in an eminent degree. The leaves are thick, fleshy, and deep green, curiously and singularly marked with white; the under side purple. The flowers are white, exquisitely shaded with the lightest tinge of blush, and in their form and arrangement are extremely beautiful. It is from the Phillipine Islands. (*Ill. Hort.*, January.)

688. *CAMELLIA JAPONICA*, *BELLA ROMANA*. Garden Hybrid.

Illustration Horticole, 1863, pl. 349.

A new Italian variety, distinguished for its large flowers and perfectly imbricated form. The color a soft rose, regularly

striped with bright crimson. The foliage is large and ample, and it appears to be one of the best of this class yet produced. (*Ill. Hort.*, January.)

689. VIOLA ARBOREA BRANDYANA. MR. BRANDY'S TREE
VIOLET. Garden Hybrid.

A hardy, or half-hardy variety, with blue striped flowers; appearing in winter; increased by cuttings; grown in light, dryish soil. *Ill. Hort.*, 1863, pl. 350.

This is a new seedling variety of the old tree violet, as it is often called, with the flowers of a deep blue, beautifully striped with white. It was raised by M. Brandy of Mans, and is now first offered for sale by the Belgian nurserymen. Of course, like the old tree violet, it can only be kept in that form by suppressing all the suckers; but it may, undoubtedly, be treated in the ordinary way, for an abundant bloom. (*Ill. Hort.*, February.)

690. SYRINGA, var. PRESIDENT MASSART. Garden Hybrid.

Illustration Horticole, 1863, pl. 352.

The Belgian cultivators have given much attention to the lilac, and have raised some very distinct and beautiful varieties. As it appears to sport a great deal from seed, we have no doubt some very marked sorts will be obtained. We have several plants from one single lot of seed, among which are two or three superb flowers.

The lilac President Massart is a seedling of M. Brahy Eckenholm, of Heistal, near Liege. It is remarkable, not only for the very large heads of flowers, but for their color, the exterior of the blossoms being lilac, and the interior violet, reflected with slate. (*Ill. Hort.*, February.)

691. LILIUM NEILGERRICUM *Hort.* MOUNT NEILGERRY LILY.
(Liliaceæ.) Neilgerries.

A hardy, or half-hardy bulb; with pale yellow flowers; growing two feet high; appearing in August; increased by offsets; grown in good light rich soil. *Ill. Hort.*, 1863, pl. 353.

With the exception of the color of the flowers, it would be difficult to tell this lily from the *L. longiflorea*, or *eximum*. The foliage is similar, the flower about the same size and form, but instead of being white it is of a delicate pale yellow, and exhales a very sweet odor. It is a pretty addition to the

lily tribe; and if hardy will be a decided acquisition to our gardens, giving a variety at that early season, before the Japan lilies begin to bloom. (*Ill. Hort.*, February.)

692. CALADIUM MIRABILE *Nob.* REMARKABLE CALADIUM.
(Araceæ.) South America.

A hothouse plant; growing two feet high; with variegated foliage; increased by offsets; grown in rich heath soil, leaf mould, and sand. *Ill. Hort.*, 1863, pl 354.

This is another of M. Barraquin's discoveries in Mexico, and sent to Belgium, where it was introduced by M. Verschaffelt. It has very large leaves. The medial nerve and side branches are clear light green, bordered with the same shade. The remainder of the leaf is dark green, spotted all over with conspicuous and irregular silver dots, something in the way of *C. argyrites*. It is one of the best that has been introduced. (*Ill. Hort.*, February.)

ÆNOTHERA LAMARKIANA.—We have an article prepared upon this new and fine plant; but, owing to the failure of the engraver to execute the drawing in season, we must defer it to another number.—Ed.

General Notices.

WHEN AND HOW SHOULD STRAWBERRIES BE PLANTED.—On reading the title of this article, many experienced cultivators will doubtless say, "These are old questions which have long ago been debated and settled; therefore it is unnecessary to bring them up again." Others, and the greater number, may perhaps find in them certain points to which they may again profitably advert. I am inclined to think so; for having examined plantations of strawberries in different localities, I have come to the conclusion, that they have not generally been made with the precautions necessary to insure the desired result.

Some advise strawberries to be planted in the end of August, or in September, or better still, between the 1st and 15th of October; others prefer the months of March or April. Those who advocate the former period say that the plants put out in the end of summer or beginning of autumn have time to establish themselves in the soil before winter, and to gain sufficient strength to bear a crop in the following summer. This reasoning, it must be admitted, appears plausible. The success of plantations made at this season depends however, in a great measure, on the soil

being well worked, and in proper condition as regards moisture; on the plants being sufficiently strong and furnished with good roots, and on their being carefully transplanted. I agree with the opinion of those who prefer spring planting. For more than a quarter of a century I have planted at all seasons, but the spring plantations have always proved the best. The cause of this success lies in the following facts:—

The plants established round the stools since last summer without being detached from their parent plant, will be found much stronger after winter than those that have been separated before winter, either for planting out in nursing beds, or at once in the plantation. When carefully taken up with all their fibres in spring they soon take root, and grow vigorously in well prepared newly dug ground; and in June or July they produce as much fruit as those that have been detached in a young state and planted before winter.

On taking up some young strawberry plants it will be observed that the very slender fibrous roots extend obliquely in the soil in all directions round the parent plant. From this fact the cultivator should infer that in transplanting he ought to extend the roots in a similar oblique direction, covering them successively with soil up to the necks of the plants. On examining these a fortnight after it will be found that new spongioles have been formed all along the roots, a circumstance which shows the utility of preserving all the fibres when taking up the plants.

Every cultivator must be aware that strawberries push roots more than a foot into the ground, provided it is deep, and rendered loose and permeable by manures suitable to the nature of the soil. They extend obliquely more than a foot and a half in all directions round the plant. If they are planted so closely that the roots entangle each other in struggling to obtain nourishment, it may be easily conceived that the produce must in consequence be diminished, not only in the first, but also in the second, and more especially in the third year after planting. By some this is ascribed to the plants being exhausted; but this is an error arising from mistaking the effect for the cause. It would be more reasonable to say that the elements of nutrition in the soil become insufficient for the demand. These observations show the necessity of planting widely apart, so as to prevent the roots of strawberries and other plants from coming in contact with each other, if we wish to obtain fine produce.

Those who plant exclusively with a view to crop, and to obtain the fruit in full perfection, cut off the runners in spring and summer as they are produced. The fewer runners a variety of strawberry throws out, the easier a plantation is kept in order. A variety naturally disposed to make few runners is preferred to those that produce many, if in other respects it possesses equal merit, a property which is becoming more and more appreciated by connoisseurs. Such being the case, I was rather astonished to observe that Mr. Radclyffe makes the limited production of runners a fault as regards *La Constante*; and this is a reproach thrown on this strawberry which is even not well founded; for if planted in good soil, neither too dry, nor too stiff, cold, and wet, it produces runners sufficiently well. A dozen

young plants which were planted out in April, 1862, furnished by October 127 plants, which was at the rate of more than 1000 per cent. The circumstance of this variety not producing a superabundance of runners is considered one of its meritorious characters by the most intelligent cultivators.

What will Mr. Radclyffe say when he shall have cultivated two varieties to which I have given the names of Model and Bijou. The first name applies to the plant and its fruit; the second exclusively to the fruit, which is truly a Bijou in every respect. They are improved seedlings from La Constante, and produce runners in an infinitely more moderate degree.—(M. DE JONGHE in *Gard. Chron.*)

ANNUALS.—Annuals are flowers for the million, and as such will ever hold their place in many gardens, as they will do in the esteem of very many lovers of flowers. This is particularly evident at the present season, when we are besieged by inquiries such as these:—What Annuals do you recommend? Are there any good novelties this year amongst Annuals? What Annuals can we trust ourselves to buy, after having been disgusted with the advertised “choice collections?”

Without making any specific replies, it may, therefore, perhaps, prove generally useful if we just run over the inventory of Annuals, and tick off the most noteworthy amongst them; by doing which we shall doubtless supply the information sought by our correspondents.

Of course everyone would grow mignonette, and stocks, and asters, and few would omit besides convolvuluses, larkspurs, and everlastings. There is not much to choose among the sweet mignonettes, only one variety which is called large flowered, and which is rather stronger habited than the ordinary plant, being grown; it is quite immaterial which of these is taken for common use. Among annual stocks the new large-flowering German Ten week, and the new Giant Pyramidal, a few colors in each, will supply all ordinary wants; these last are indeed the finest of all annual stocks. Of asters the dwarf chrysanthemum-flowered, the pæony-flowered, and a good quilled strain are all that need be cared for, the interminable “collections” of “splendid” varieties being carefully eschewed. The *Convolvulus major* is now sold in separate colors if desired, but it looks better mixed for general purposes. *Convolvulus minor* now yields a rich dark blue form called *monstrosus*, which is very attractive. Among larkspurs, after the double-flowered Rocket larkspur, the most desirable is a double striped-flowered form of the branching kind, called *tricolor elegans*. Of everlastings, none compare for a moment with the incurved series, which some seedsmen persist in calling *compositum maximum*, and whose large, almost globular flower-heads are often of the richest colors.

Besides these, which no one should omit, there are many other annuals of great interest and beauty, of which we may notice a few. *Acroclinium roseum* has charming rose-pink composite flower-heads, and is of the half-hardy series. *Calliopsis tinctoria*, one or other of its forms, which vary in color, and *C. Drummondii*, which is a yellow, with crimson spots round the

disk, are amongst the most beautiful of late-flowering composites; and *Cosmidium Burrigii*, a variety of *filifolia*, is another equally handsome and of similar character. *Clarkia pulchella pulcherrima*, and *flore-pleno*, both high-colored, are fine in their way; so are *Collinsia bicolor*, *multicolor*, and *candidissima*, the latter pure white, the two former differently marked with purple. *Eschscholtzia crocea* is one of the richest and most floriferous of annuals which yield pure intense orange-colored flowers; so also is *Erysimum Peroffskianum*, which, however, with its wallflower-like flowers and habit, is very different from the poppy-like *Eschscholtzia*. *Gilia tricolor* and its different colored forms are amongst the prettiest of the dwarf species; and not far removed from them are the still prettier and showier *leptosiphons*, amongst which two or three quite distinct types occur. *Linaria bipartita splendida* gives a profusion of rich deep purple flowers; as also does a newish form of candytuft, *Iberis umbellata atropurpurea*; both of these are acquisitions. *Linum grandiflorum*, which forms a mass of glowing crimson, should never be omitted in choosing annuals, for it is decidedly one of the best of modern introduction. Of lupines, those called *Dunnettii superbus* and *hybridus insignis* are very handsome, and remarkable in the well contrasted colors of their flower spikes. *Malope grandiflora*, a rich crimson mallow, may well be selected for its beauty, as also may *Hibiscus africanus*, whose flowers are cream color, with a black centre. *Nemophila insignis* is not beaten, but *maculata* is very pretty, and there are besides several pretty new varieties in this family, which by the bye requires protection from cats. *Phlox Drummondii* yields colors of extreme richness, and is every way a most desirable border plant. So are the fine old portulacas, *Thellusoni* and *splendens*, in places which suit them, such as hot dry rockwork. *Silene Atocion* is one of the prettiest amongst the dwarf pale pink catchflies, and *S. Pseudo-Atocion* is still more ornamental, of larger growth, and deeper color. Good double marigolds, of the giant, or the medium, or the minimum forms, are all especially handsome, but they have the drawback of a scent that is not agreeable to every one. *Tagetes signata pumila*, another of the marigold family, forms a particularly elegant dwarf mass, and its orange-flowers are showy withal. Then there is the Tom Thumb breed of nasturtiums, of which at least the scarlet, the yellow, and the dark crimson are most telling flowers for masses, either in beds or borders. *Rodanthe maculata* quite eclipses old *manglesii*, lovely as that is. The *viscarias* are both graceful in habit and attractive in blossom, especially that called *V. oculata splendens*. The yellow Canary Creeper, *Tropæolum aduncum*, is one of the best of common annual creepers, well supported by Major convolvuluses and sweet peas. The varied *Marvel of Peru*, with its showy and scented blossoms, is another most desirable and pleasant-looking flower. And, finally, there is *Zinnia elegans*, which in its single state, with mixed colors, is one of the most attractive of the whole series; and in its double form, at least when the strain is a good one, is good indeed.

Here, then, are some of the best of the annuals, old and new, as they stand in our estimation. We have by no means exhausted the list of

worthy subjects, but those who have no previous experience to guide them in making a selection, will do well to confine their choice within the limits we have indicated.—(*Gard. Chron.*)

NEAPOLITAN VIOLETS.—Mr. Shrimpton, gardener to A. J. Doneux, Esq., a very successful cultivator of the Neapolitan violet, treats them as follows:—Strong plants are obtained by dividing the old ones of the previous year's growth. This is done early in May. A sloping border, under the shade of a north wall, is selected for their reception, and on this they are planted, with a trowel, in rows, about a foot apart, and eight inches asunder in the rows. Care is taken to keep the soil loose, and during the summer season weak manure water is given three times a week, from July until the beginning of September. It is applied by means of a small spouted watering pot, taking care to keep the heart of the plants dry, otherwise the liquid is apt to prove injurious. Runners are kept closely pruned in, from the moment the plants are placed in the border until the time when they are removed to the frame, which is usually about the middle of October. They are moved, if possible, with a good ball of earth to each plant, and are placed in the frame, which is filled with good light soil, and set in a thick bed of loam. After planting the frame is kept nearly close, and well shaded. This is continued for a week or ten days, after which the plants require plenty of light and air. Great care is taken not to over water them during dull weather. Under this management violets are obtained in abundance, all through the winter and spring months.—(*Gard. Chron.*)

NEW MODE OF CULTIVATING ASPARAGUS, BY R. R. GAUTHER.—Asparagus, the author observes, does not succeed well in some soils, especially in cold clays; but he says he has discovered a mode of growing it as easily as wheat, and at less than the usual expense. Asparagus requires a great amount of heat; in cold soils it pushes slowly, and the quality is not so good as in warm ground. We must, therefore, in unfavorable soils, have recourse to butting or earthing up, forming a conical heap on the base of each stool.

Sowing.—The seed should be selected from the plants that have been observed to give the fairest produce. It should be gathered when ripe, which is generally in September or October; and it should be sown immediately, in fresh dry ground. The seeds should be lightly covered with some good vegetable mould. In the month of May following the plants will have attained the height of some inches. They should then be planted, choosing the strongest of those that have their buds farthest apart, and rather few roots. The plants, says M. Gauthier, which have their roots much developed, often yield small shoots.

Planting.—If the soil is strong it must be trenched and abundantly manured with leaves, decayed vegetables, or, preferably, with street manure, finishing with some good soil at top. There are three ways of planting. 1st. At six or seven inches apart, for obtaining green asparagus,

called *aux petits pois*. 2d. At thirteen inches, for asparagus, green or blanched, under glass. For the blanched, soil should be put in the frames, or in the beds, to the height of about twelve or thirteen inches; for the green asparagus this is not necessary. 3d. At three feet three inches distant, and in quincunx order, for the large blanched asparagus. When the plants are sufficiently strong, generally when three or four years old, form over each stool a conical heap of soil, like a large mole hill, ten to twelve inches high, and which may be progressively augmented in following years, according to the strength of the plants, to twenty inches. This work should be done in a dry time in March, the finest soil being gathered together by means of a hoe. The asparagus is gathered when it pushes an inch or two above the hills; and in doing this great care should be taken not to injure the crowns. The fourth year after planting, only a few shoots are gathered from each stool; this gathering should not be continued for more than three weeks at most. In the climate of Paris the cutting of asparagus continues till the 15th of June; if prolonged beyond this period it will be at the expense of future crops. In the course of November we cut down all the stems to about thirteen inches. In this country (England) they are at once cut down to the ground. Then we uncover the stools so as to leave on each only a very slight covering of soil. By so doing the maturity of the plants is perfected. Every second year, soon after the earthing up is taken down, it is necessary to give the asparagus plantations a good dressing of rotten dung. Those who prefer a different system of culture from that above indicated, should, however, says M. Gauthier, use plants of one year old, when they begin to push.—(*Gard. Chron.*)

CUCUMBERS IN WINTER.—For the Winter crop, I prefer to take cuttings from the best plants in September and October. The cuttings should be six inches long, plump and healthy; and they strike in two days if put into a brisk bottom heat, planted in pots three parts filled with dry turf chopped small, with the addition of a little sand and powdered charcoal. These are planted out as soon as they have made good roots—say a fortnight after making the cuttings, and they bear well at Christmas. If raised from seed the sowings should be made—one early in August and another at the end of September. The first will fruit before Christmas, and at the turn of the year will be full of vigor; the second will begin to bear about the end of February, and be in their prime in March. To cut fine fruit on Christmas Day, the plants ought to be in bearing by the first of December, and if you delay the sowing beyond the middle of August you cannot make sure of fine fruit at Christmas, with the most perfect management, though I have often had a good crop at that time from plants sown in the middle of September.

I always raise cucumber plants in pots. Never sow the seeds where the plants are to remain, not even for ridges in the open ground. In planting out the bed over the tank, one precaution of great moment is to use only a little soil at a time—just enough for the roots to work in freely. If the

bed were made up at first, a good deal of the soil would sour before the roots got into it, and then the vines would languish. The soil should be a fresh loam, well chopped up and quite mellow. Having abundance of an unctuous yellow loam, we generally chop up with it about a third part of the soil from an old turf stack, and in this mixture the cucumbers thrive amazingly. Having raised a little hillock for each plant, and made the top of each the same level as the whole bed is to be ultimately, we knock the bottoms clean out of a few forty-eight pots, and press them firmly into the centre of the hillock, rim downwards, and with, consequently, the open bottoms upwards. The seedlings are then carefully turned out of their small pots into the inverted forty-eights, dressed up neatly, and without injury to the tender roots, and the circular orifice around the collar of the plant covered with a few pieces of tile or slate. It is astonishing what an improvement this plan is over planting in a made up bed. The plants soon take hold of the new soil, and extend their roots till they touch the sides of the pots, and then go down into the base of the hillock, and in a short time require an addition of soil. To prevent the growth of fungi, or the caking of the soil, the hillocks are stirred lightly every few days, and every time earth is added. The inverted pots are, of course, ultimately buried by the additions of soil around them, but they still continue to protect the roots, and give support to the plant at the collar. In watering and pruning they are also of use as a protection against injury.

The plants are trained up a trellis about fifteen inches from the glass. To get the trellis covered quickly, we take up the leading shoots to within a trifle of the top before we stop them, and thereby we secure better bearing wood than if they were stopped at an earlier stage, for every stopping of a plant is a check to it. When the laterals break they are thinned if requisite, and trained out regularly upwards, and when they have grown about half way to the top, they are stopped and the new shoots trained in laterally. Every one of the laterals that does not show fruit at the second leaf from the main branch is stopped again, and the process repeated until fruit appears. The upper part of the trellis has, of course, the same kind of treatment. When fruit blossoms appear, no more stopping of that branch takes place till the fruit is well set, then I stop at the next point beyond the fruit, and this stopping causes it to swell. The removal of the leaf beyond the joint would cause the fruit to fail. This is an important point, and applies to the summer pruning of the grape vine after precisely the same rule. It is the leaf that keeps the fruit supplied with sap, for its growth and maturation. Whenever a branch begins to fail in bearing, it is cut clean away, and new branches trained out to take its place. All the pruning on this principle, except the removal of an exhausted branch, is done with the thumb-nail; if the growth goes so far as to render a knife necessary, then the grower has done an injustice to the plant.

One other matter is of importance. The bed of the tank is divided into compartments, by means of slates on edge, and this allows of the removal of a plant and the soil it has grown in, without the least disturbance to any of the rest.—(*Gardeners' Weekly Mag.*)

CANNAS.—While referring to cannas, let us say one word in their behalf as noble summer plants for the flower garden, to which their foliage when well developed, imparts an almost tropical aspect. When used in this way indeed, our climate is not always to be trusted to bring them to perfection; and hence the means which a knowledge of their habits suggests, should always be adopted to secure the intended result. If they are, as we believe them to be in certain cases, worth introducing to our parterres, for the sake of the noble appearance they present by their foliage, then they are worth taking some trouble with to ensure success. And the secret of success is bottom heat; such for example as it is found desirable to give to half-tender plants like gourds and cucumbers, which as every gardener knows, thrive all the better for a little warmth at the roots, notwithstanding that they may sometimes succeed without it. The readiest means of applying this bottom heat on a limited scale, would of course be by the introduction of fermenting material beneath the surface of the soil, in a sufficiently drained excavation—a bed, that is to say, of leaves and dung worked up into the state in which the mixture would be fit for making a hotbed. But whatever the agency employed, the result would be similar, provided it were sufficient to warm the soil—(*Gard. Chron.*)

CANNAS.—Many no doubt will be trying their hand at growing cannas out of doors through the summer season this year for the first time. To experimentalists in the matter, therefore, I beg to offer a few practical hints in addition to the above. Let us presume that next month on a dry day a bed has been emptied of the soil to the depth of two feet, and that the bulk of the mould taken therefrom has been mixed with some more invigorating material, such as rotten dung, leaf mould, or peat, and that the bed is filled up to within six inches of the surface with fermenting material as you have recommended. After treading well in, put on six inches of the mixed soil, spread evenly over, and if procureable and the soil is any way heavy, river sand and charred rubbish may be sprinkled over all with advantage; the bed will now be filled up to the surrounding level. Procure from any source tubers that have not yet been started into growth, place them if healthy on the bed already prepared for them, two feet apart, and cover with the remaining soil, giving the bed a fall from the centre of eight inches if six feet wide; thus elevated they will be, in addition to the slight bottom heat, benefited by the sun's rays. This plan was adopted here last year with perfect success, and this year two thousand will be planted; with this exception, that we trench deeply, mixing dung with soil without the aid of fermenting material. Canna Annei we find the hardiest of all varieties; many beds of it were not removed from their summer to their winter quarters in an old ice house, and now I see that they are beginning to show themselves above ground; this variety grows ten feet, and in a mass some fourteen feet in diameter, with a row of one of the dark foliaged kinds, edged with *Caladium esculentum* alternately planted with *Perilla*, or *Coleus Verschaffelti*, produces a very pleasing effect on a lawn. Though this is easily accomplished, it may, by following your advice to apply simple bottom heat, be done also in England.—(*Gard. Chron.*)

GLADIOLUS AND CANNAS.—Though remarkable for the beauty of its flowers, it must be confessed that the gladiolus is somewhat deficient in respect to its foliage. There is scarcely enough of leaf, so at least one is tempted to think, to set off to the best advantage the bold spikes of brilliant blossoms. A suggestion has been made, and it seems experimentally tested, to use the canna to supply the deficiency at which we have hinted. It may, therefore, be worth while at this juncture to recall the subject, in order that seeds or roots of the cannas may be taken in hand, to supply the stock which may be required by those who may be inclined to carry out this mode of planting.

And here it is necessary to put in a caution that some, at least, of the species and varieties of canna, would be unsuitable for the object proposed. Cannas form one of the garden subjects which have been "improved," until they have acquired a stature and dimensions which render them, indeed, noble objects in themselves; but which would in a genial season become quite overpowering to the gladioli. Hence the larger and bolder forms must be omitted, unless the situation should be such as would be suitable for their being employed as a background. Probably there is no more appropriate species for mixing with gladioli than the common old *Canna indica*, which is comparatively dwarf, and has narrowish green leaves, such as would accord better with the natural foliage of the gladiolus, than would the broader and variously tinted leaves of many of the majestic and giant varieties which now-a-days find a place in the seed catalogues.—(*Gard. Chron.*)

PENDULOUS PLANTS FOR BASKETS IN GREENHOUSES.—Almost all twining and creeping plants will answer if sufficiently supplied with moisture, such as the greenhouse *Passifloras*, and the stronger growing of the *Kennedias*, and *Gompholobiums*. Allowed to depend, all training would be saved. Amongst strong growing semi-herbaceous evergreen shrubby plants, we would instance the *Maurandyas*, *Lophospermums*, *Rhodochiton volubile*, *Cobæa scandens*, *Dolichos lignosus*, *Jasminum gracile*. Among free-growing, herbaceous and succulent in their stems—*Tropæolum Lobbianum elegans*, *Triomphe de Hyris*, and the beautiful *tricolorum* and *pentaphyllum*. Of small herbaceous evergreen trailers, we would instance—*Lobelia gracilis* and *begonifolia* (blue), and *Hibbertia grossulariæfolia* (yellow), *Saxifraga sarmentosa*, and *Tradescantia procumbens*, leaves green, white, and purple. Of hardwooded small plants, *Kennedyia prostrata* would answer well. Where the assistance of a hotbed could be procured for cuttings and seeds in spring, the beautiful *Torenia asiatica*, and the various varieties of *Thunbergia* would look charming in summer if well syringed. Of succulents use *Cereus flagelliformis* and *Mallisoni*.—(*Cottage Gard.*)

GAZANIAS.—What would you say to doing *Gazania splendens* as Mr. Fish does the *calceolarias*?—put in the cuttings in the middle of November, and keep them as cool and as moist as the *calceolaria* cuttings through the whole winter. Well, from what has occurred with me, without trying for it, it strikes me that will be the best plan with *splendens*. But I put in

my usual stock of cuttings of it at the end of August in the open ground, just like cuttings of Scarlet Geraniums, and nothing could do better; they all rooted, and while they were rooting the stems ripened and hardened, so that no damp can hurt them at all events, planted in that pit as closely as they can stand.

But I had three large old plants of it in pots the whole season with some of the shoots 18 inches and 20 inches long, and kept half-starved in pots on a high stand full in the sun, the shoots hanging down as from a vase. That plan was adopted as the last I could think of to cause the plant to seed, and if it seeded to cross if possible; but all would not do, the *Gazania splendens* will not seed here by any means known to me or that I can think of, neither will *Gazania rigens*.

In the beginning of October I shook the soil from their roots, cut off the long branches, and put the plants in by the heels in the open ground, and in the beginning of November I had them planted in my omnibus pit, and before I had all in I had to change the *Gazania* plants to another light, and then I found every part of the stems which was in the ground, or touched it, had rooted as freely as if it were July, perhaps more so; and as the old roots were almost all cut away with the balls, and no sign of growth in the parts of the roots which escaped, while all the young wood or shoots were one mass of young roots, it would seem that November is as good as any, if not the best time, to put in the cuttings of *splendens*, and if so, probably also those of *rigens* and *uniflora*.

Another way would be still as handy for people who are pinched for room at the time of housing the harvest of the beds. It is this, and it is not too late now—to lift so many of the old plants out of the beds, or rows, to cut away all the spreading shoots leaving only a cluster of very young shoots near the collar of the plant, and to plant the whole in a narrow box, or boxes, so that the young growth might hang out on either side of the box without coming in contact with the soil which might cause dampness. Several boxes of that kind of make have been so planted this and last season hereabouts, and at planting out time last May, every old plant made so many plants by dividing, besides a whole complement of cuttings by the middle of last March, and the plants so obtained were not one day behind those which were had from autumn-struck cuttings, which had to be carefully kept and watched all through the winter. But who will put in a batch of cuttings now of *Gazania splendens* to see if they do as the *calceolarias*?
—(*Cottage Gardener.*)

A VISIT TO THE BULB FARMS OF HAARLEM.—The railroad from Rotterdam to Amsterdam has been laid along the coast within a short distance of the sea, and passes the towns of The Hague, Leyden, and Haarlem, in the order in which I have placed them. Between Rotterdam and Leyden the land is chiefly used for grazing purposes, and is evidently not suitable for bulb cultivation. On reaching Leyden, however, a change was observable, the land appeared more sandy in its formation, and was evidently affected by the adjoining sand hills. Patches of hyacinths, tulips, and other bulbous

plants were now observed in full bloom on each side of the road. As we proceeded northwards the cultivation appeared gradually more extensive, but it was only when we reached Haarlem that we found ourselves actually in the heart of the great bulb country.

Many portions of Holland are considerably below the level of the ocean. A belt of sand hills or Dunes has been thrown up along the coast by the action of the winds and waves, and now forms a protection against the encroachments of the sea. These "Dunes," which extend along the coast for a great distance, are from one to three miles in width, varying from forty to fifty feet in height, and when looked down upon present a succession of little hills and valleys to the eye not unlike the waves of a stormy sea. The bulb farms of Haarlem are situated on the inner edges of these sandhills.

On our arrival at Haarlem we were most kindly received by Messrs. Krelage, and Messrs. Polman Mooy, of that place; and by Messrs. Byvoet and Van Velson, jun., of Overveen, a village two miles to the west of Haarlem. Mr. Krelage has a large garden in the town as well as a number of farms in the country. His town garden is remarkable for a beautiful bed of Tulips, about 600 feet in length, and formed so as to resemble a walk of flowers. Wooden arches are thrown over it at intervals for effect, and its sides are lined with tall lilies (Crown Imperial.) The views from either end of this "tulip walk" were most remarkable and beautiful. The masses of red and scarlet tulips were very striking, particularly when formed of the varieties known as Vermillon Brillant, and scarlet Duc van Thol. In this garden there was also a large canvas tent under which were arranged all the finest varieties of hyacinths. Under it there were two long beds containing 110 rows in each bed (six plants in each row) the one being filled with the single kinds, and the other with double. The different colors were arranged in an artistic manner so as to heighten the effect of each other, and the whole had an excellent effect. Out of doors, besides the "tulip walk" just noticed, there were whole fields of hyacinths, tulips, narcissi, Japan and other lilies, fritillarias, Cape bulbs, ranunculuses, anemones, &c.

In the afternoon of our first day we drove out with Mr. Krelage to see his country farms, and those of Messrs. Byvoet and Van Velson, jun., at Overveen. On the road sides as we went along we observed fields of hyacinths and tulips in every direction covered with bloom, and the sweet scent from the former perfumed the air. The fields are all perfectly level, and are divided into squares by clipped hedges and close wooden paling for the purpose of lessening the force of the wind, and of preventing the loose sand from doing too great an injury to the flowers, as it flies about here like dry snow. The bulbs are arranged in beds, and the different kinds are kept together in masses, by which means a very beautiful effect is produced.

Having examined Mr. Krelage's country farms, we then went onwards to Overveen, to those of Messrs. Byvoet. Here the squares into which the land is divided appeared to be larger than those nearer Haarlem. Whole

fields were covered with hyacinths, tulips, anemones, crocuses, ranunculuses, &c. In England we have no idea of the effect produced by fields of bright colors, lying in broad masses, and arranged so as to heighten the brilliancy of each other. Here again, as elsewhere, the effect produced by the fine scarlet or crimson kinds was most striking. Broad masses of Vermillon Brilliant, scarlet Duc van Thol, and a double kind named Emperor rubrorum, when viewed amongst the lighter varieties, seemed to set the fields "all in a glow."

The natural ground about Haarlem is composed almost entirely of sand, furnished originally by the Dunes or sand-hills already noticed—

"Holland that scarce deserves the name of land,
As but the offscouring of the British sand;
And so much earth as was contributed
By English pilots when they heaved the lead;
Or what by the Ocean's slow alluvion fell,
Of shipwreck'd cockle and the mussel-shell;
This indigested vomit of the sea
Fell to the Dutch by just propriety."

Water is found a very little below the surface of the ground—from two to five feet—depending, of course, upon situation, and the dryness or wetness of the season. Thus two of the requirements for successful cultivation, namely, soil and moisture, are supplied by nature. The natural soil is enriched from time to time by being mixed with fresh cow-dung, which is the only manure used in the cultivation of the hyacinth. As Holland is a great grazing country, this manure can be obtained in abundance.

The ground is prepared for the bulbs in the following manner. It is trenched two or three feet deep in spring, and manured at the same time. The manure is placed about nine inches below the surface, and is usually about two or three inches in thickness. A crop of vegetables, generally potatoes, is then planted on the land, in order to bring it into proper condition for the hyacinths. The potatoes or other vegetables are taken up in the end of the summer, and then the ground is dug again, carefully levelled, and is ready for the reception of the bulbs. These are planted in the months of September and October.

Rotation of cropping is carefully observed. Hyacinths, as a rule, are not grown more than one year on the same land. The second year their place is occupied by tulips and crocuses; and the third year by narcissi, or vegetables again. About once in every six years, the land is trenched deeper than usual (three or four feet), and fresh soil is brought nearer the surface. Hyacinths appear to be easily affected by the composition of the soil, and are liable to become diseased. Whenever a kind of gum oozes from the bulbs, it is a sure sign that the soil requires renewing, and this deep trenching is resorted to as a remedy.

It is estimated that 100 acres of land are annually under hyacinth cultivation in the vicinity of Haarlem, and that 400 or 500 acres more are covered with other bulbs or tubers. The value of this land is about £300 an acre, and the annual rental is about £25 an acre. This "shipwrecked

cockle and the mussel-shell" of the poet quoted above, would therefore seem, in these latter days, to be of considerable value.

The land having been prepared as I have described, is then divided into beds three and a half feet wide, and the bulbs are planted, six inches apart, in rows, across the beds. This is the space usually given to full-grown bulbs; young, undersized ones, not requiring so much room, are planted closer together. They are then covered with about three or four inches of soil, the beds are neatly levelled, and the operation is considered completed.

The planting takes place in the months of September and October. The latter month is preferred, for if the bulbs are planted too early they are not unlikely to commence growing and throwing up leaves before the winter comes on, and this is not desirable. But when such a quantity of land has to be planted about the same period, it is often necessary to begin planting somewhat earlier than prudent in order to get through with the work. During the depth of winter the hyacinth beds are covered over, six inches deep, with a reed indigenous to the country, in order to protect the bulbs from the frost. The covering is removed in spring, the beds are cleaned, and nothing more requires to be done until the plants come into bloom. The time of flowering varies, of course, with the earliness or lateness of the seasons, but as a general rule it may be put down at from the beginning to the middle of April.*

When the hyacinth is in full bloom—not before, the flower-stems are removed, being cut off two or three inches above the soil. This is done, not to strengthen the bulbs as one might at first sight suppose, but to prevent the heavy fleshy flower-stems from falling over the leaves and rotting them during wet weather. The cultivators are therefore always anxious to have the operation over before the approach of heavy rains. It is their opinion that the bulbs, instead of being strengthened, would be injured were the flower-stems removed too early; and hence the idea that preventing a plant from flowering enables it to retain or renew its vigor does not find favor at Haarlem, in so far as the hyacinth is concerned. Indeed in some varieties, such for example as one very largely cultivated—*Ami du Cœur*—the flower stems are allowed to wither on the plants; for it is found, if they are removed, the bulbs crack, throw off suckers, and become deteriorated. The cultivator has in view the production of sound marketable bulbs, and these, it is found, can only be obtained by allowing the flower stems to be fully developed before being cut off, or in some instances, like that just mentioned, by not being cut at all.

During the period when the flower-stems are being removed, it is a common sight to see cart-loads of the finest blooms lying like manure heaps in the corner of every field—a strange sight to the eyes of persons from other countries who are accustomed to bestow so much care in the rearing of the hyacinth in glasses and flower pots, and to look with delight on the collections which are annually placed under tents at exhibitions. But so it is.

* The following is the order in which the various kinds of bulbs come into bloom about Haarlem:—In March, crocuses; April, hyacinths, tulips, narcissi, fritillarias; middle of May, anemones; end of May and June, ranunculi.

During the latter part of our stay at Haarlem, millions of these flowers were cast to the dunghill or strewed on the roadsides and edges of the fields, where children had been playing with them. Some attempts have been made to extract the scent, and thus turn the flowers to some account, but they have failed; and indeed this is not surprising when we remember that the flowers of the hyacinth, however sweet when just expanding, soon lose all fragrance, and become, if anything, rather disagreeable. Sometimes the flowers are strewed over newly prepared land, to prevent the sand from being blown about by the wind, and this is, I believe, the only use ever made of them.

Hyacinth bulbs are ripe, and are taken out of the ground in the beginning of June. They are laid on the surface of the beds with their roots to the sun, and after a little exposure they are covered with dry sand. Here they remain for ten or twelve days, when they are again taken up, exposed to the sun and air for a while to dry up the moisture, and then they are picked or sifted; the rootlets are removed, the stems cut off, and they are finally taken into the drying house. Those for exportation are sometimes selected and arranged by themselves at once, and are usually sent out in the beginning or middle of August.

The drying houses on every farm play a very important part in bulb culture. Those of Messrs. Byvoet at Overveen, which I had an opportunity of examining minutely, are admirably constructed for the purposes for which they are intended. They are fitted up with wooden shelves, tier above tier, somewhat like an English fruit room. They have large doors and windows, which can be thrown open on fine days, so as to allow the air to circulate freely amongst the bulbs. The roofs are either thatched with the reed of the country and covered with tiles, or with wood under the tiles. In either case they are made to a certain extent non-conducting, and an even temperature is consequently the result. Mr. Byvoet informed me that he prefers having a number of small drying houses to one large one, as his property is safer in case of fire.—(ROBERT FORTUNE, in *Gard. Chron.*)

Massachusetts Horticultural Society.

Saturday, May 2.—An adjourned meeting of the Society was held to-day—the President in the chair.

Mr. Wetherell, from the Library Committee, reported that they had purchased 24 copies of Burr's *Field and Garden Vegetables*, agreeably to the vote at the last meeting.

John Jeffries, Jr., George Roger Hall, M. D., and Benjamin F. Dwight, Boston, and Addison Brooks and Jonas Kendall were elected members. Adjourned one month, to June 6th.

May 30.—OPENING OF THE HALL.—The Opening Exhibition of the year took place to-day, and was every way creditable to the flourishing condition

of the Society. The competitors for plants were not numerous, but the specimens were remarkably fine.

Messrs. Hovey & Co. sent fifty plants, among which were really superb specimens of azaleas and pelargoniums, one mass of bloom. The azaleas were *Mad. Miellez*, *Maitlandii*, *Symmetry*, *Osbornii*, *Glory of Sunning Hill*, *Alba Magna*, and the fine seedling *Glory of America*, a striped variety in the way of *Beauty of Europe*, but with a white ground, feathered with orange scarlet. Pelargoniums, *Una*, *Napoleon III.*, *Mad. Pescatore*, *L'Avenir*, *Glory of America*, and *Conspicuum* and *Fancy Emperor*, *Helen Faucit*, *Dolly Dutton*, *Belle d'Epinau*, *Eulalie*, *Princess Royal*, *Beauty Supreme* and *Perfection*, very large specimens, and completely covered with bloom. Among the specimen plants were *Dracæna terminalis* and *férrea*, *Statice Halfordii*, *Rhynchospermum jasminoides*, *Yucca aloifolia variegata*, *Pimelea decussata*, and the new and fine *Coleus Verschaffeltii* and others; also, the fine *Cavendish heath*, *Beaumontia*, *Ventricosa breviflora*, *intermedia*, *Vestita rosea*, and *Ventricosa Bothwelliana*; cut flowers in great variety.

D. Zingerbel, of the Cambridge Botanic Garden, had a fine collection of foliaged plants, including *Caladium Chantini* and *Belleyme*, marantas, ferns, and begonias, a list of which we neglected to take.

J. Comley of Worcester sent a similar collection, but larger specimens. His *Caladium Chantini* was exceedingly fine, and the begonias were large and well grown. Also, six fine gloxinias, which were in fine condition, after travelling so long a distance.

E. Wilson, Belmont, sent very good pansies. J. Nugent, a pretty plant of *Hydrangea variegata*. Walker & Co., tulips in variety. Breck & Co., Barnes & Washburn, J. McTear, J. Nugent, and others, cut flowers. Tree pæonies, from M. P. Wilder, and twelve pots of petunias, among them several good seedlings, from W. C. Harding, Roxbury.

AWARD OF PREMIUMS AND GRATUITIES.

PLANTS.—For the best twelve, to D. Zingerbel, \$12.

For the next best, to Hovey & Co., \$10.

For the next best, to J. Comley, \$8.

SPECIMEN PLANT.—For the best, to J. Comley, \$5.

For the next best, to J. McTear, \$4.

For the next best, to Hovey & Co., for *Coleus Verschaffeltii*, \$3.

For the next best, to J. Nugent, for *Hydrangea variegata*, \$2.

PELARGONIUMS.—For the best, to Hovey & Co., \$8.

PELARGONIUMS, FANCY.—For the best, to Hovey & Co., \$8.

HEATHS.—For the best six, to Hovey & Co., \$6.

AZALEAS.—For the best six, to Hovey & Co., \$10.

BEGONIAS.—For the best, to J. Comley, \$4.

GLOXINIAS.—For the best, to J. Comley, \$5.

PANSIES.—For the best, to E. Wilson, \$4.

CUT FLOWERS.—For the best, to Washburn & Curtis, \$6.

For the next best, to J. Nugent, \$5.

For the next best, to Breck & Son, \$4.

For the next best, to J. McTear, \$3.

- GRATUITIES.—To D. Murray, for Fungi, 194 varieties, well put up, \$10.
 To M. P. Wilder, for tree pæonies, \$1.
 To Walker & Co., for tulips, \$2.
 To C. J. Power, for new verbenas, \$1.
 To W. C. Harding, for fine display of petunias, in pots, \$3.

Horticultural Operations

FOR JUNE.

FRUIT DEPARTMENT.

MAY has been a warm and dry month, without any severe frost, and vegetation came forward rapidly. Fruit looks well, and there is every appearance of a fine crop.

GRAPE VINES, in the greenhouse and grapery, will now be swelling their fruit, and will require plenty of moisture and a genial atmosphere. Air early in good weather, and close early in the afternoon; damping down the house, morning, noon, and night. Commence thinning as soon as the berries are the size of peas, and where the clusters are large the shoulders should be tied up to the trellis. Stop the laterals as they require it, and lay in the spurs for next year's crop. If very dry weather continues, give the border a good watering. Vines in cold graperies will require similar treatment now, although they will not be quite so far advanced. Guard against cold draughts, which occasion mildew. Vines in the open air should have superfluous eyes rubbed off, and a few strong shoots selected for the bearing wood next year.

PEACH TREES, in pots, should now be removed to the open air, selecting a sheltered place. Mulch the surface of the pots with rotten manure, and water occasionally with guano. Attend to the pinching in the young shoots, and securing handsome shaped trees.

ORCHARD HOUSES should now be ventilated, night and day.

STRAWBERRY BEDS should be well cleaned of every weed, and the ground covered with clean straw, or short grass, to keep the fruit clean. New beds should be frequently stirred, to keep the ground mellow. Water liberally, if large fruit is wanted.

SUMMER PRUNING should be commenced now, pinching off all laterals to two eyes or leaves. This will keep the centre of the tree open to the light and air. Mulch and water such trees as are intended for producing large specimens.

FLOWER DEPARTMENT.

The month of June is the season for commencing to remove the plants to the open air, except such as should remain in-doors. This is also the time to complete the bedding out. Push on the latter rapidly; and as

soon as done, look after the houses. Winter blooming plants must not be forgotten. Now is the time to prepare for such work.

AZALEAS, now growing finely, should be syringed freely, and kept rather close. Pinch off the tips of the young shoots, in order to have compact bushy plants. Repot such as need it. Plants now in bloom should be shaded from the hot sun. Clear off all the old flower stems, which weaken the plants.

CAMELLIAS, now completing their growth, should be syringed often, but watered more sparingly; remove to the open air, as soon as the buds are well set.

PELARGONIUMS will now be in their prime; shade from the hot sun, and water occasionally with liquid manure.

CINERARIAS, now done flowering, should have the old flower stems cut away, the plants top-dressed, and placed in a cool frame.

CHRYSANTHEMUMS, propagated last month, should be potted off and stopped, when six inches long.

TUBEROSES should be repotted, and plunged in the open ground.

CYCLAMENS should now be planted out in a well-prepared piece of ground, where they will do much better than in pots.

GLOXINIAS AND ACHIMENES should be shifted into their flowering pots.

CALLAS should be allowed to dry off, by turning the pots on their sides, in a half-shady place.

CALADIUMS should be repotted.

FERNS, growing vigorously, may have a shift into larger pots.

FUCHSIAS should now have attention. Repot specimens in good rich soil, and train into handsome shape.

EUPATORIUMS, and similar soft-wooded plants, should now be headed down, repotted, and plunged in the open ground.

HEATHS, of the common kinds, may be turned out of the pots into the open ground. Cape Heaths should be kept in pots, in a cool half shady aspect.

FLOWER GARDEN AND SHRUBBERY.

The flower garden and lawn should now be in fine order. Roll the lawn often, and cut every two weeks, at least.

TULIPS, HYACINTHS and other spring bulbs should be taken up the last of the month.

PEONIES should be neatly tied up to stakes, as their heavy flowers are apt to fall down, and get soiled by the dirt.

CARNATIONS AND PICOTEES should be tied up to neat stakes.

DAHLIAS should all be planted this month.

GERMAN ASTERS should be set out in well prepared beds.

CANNAS should be planted out in well prepared beds.

NEAPOLITAN VIOLETS should be divided, and planted out in frames.

HOLLYHOCKS should be planted.

BEDDING PLANTS, of all kinds, should be set out immediately.

ROSES should be looked after; syringe with whale oil soap in good season.

SEEDLING RASPBERRIES AND STRAWBERRIES.

BELIEVING that the production of seedling fruits will occupy the attention of American cultivators, and continue to be a subject of deep interest, it is our object to present to their consideration all the facts and experience acquired by those who have given it their study and attention; observation and experience being, in fact, the best teachers in this most interesting department of horticulture. Of rules there are a few to be laid down; the law of variation recognizes few or none, save some general principles, in regard to affinity of parents or families, vigor of constitution and combination of qualities; the most carefully recorded hybridizations often producing less valuable results than the merest chance seedling. Not that this is always so, but as showing how uncertain are the attempts to produce superior seedling plants or fruits. The Duchesse d'Angouleme was a chance seedling, found growing in a hedge; yet the late Mr. Knight spent a lifetime in raising seedling pears by hybridization, without anything like a similar result. The Baldwin apple was a chance seedling, and yet how few of the thousands of apples grown from carefully selected seed even approach it? What Mr. Rivers has already written in regard to seedling pears and plums, shows how difficult it is to make any calculation as to the character of the progeny. Even with the strawberry, thousands of plants, raised from selected seeds, produced nothing worthy of note, while from one lot of chance seedlings, raised by his brother, he selected the kind well known as Rivers' Eliza.

Since the production of our Seedling and the Boston Pine, in 1833, thousands upon thousands of seedlings have been raised by American cultivators; yet how few of all these equal the above sorts, the result of one single sowing of purely hybridized plants. We have often stated that seeds selected from the best strawberries would produce as good or better fruit than most of the kinds which have been intro-

duced the past twenty years, with high sounding descriptions ; but some cultivators have doubted the truth of this. Yet no less an accurate observer and cultivator than Mr. Rivers confirms it, for, among a whole batch of seedlings, "some thousands in number," he says "there was not a bad strawberry among them."

The late Dr. Brinckle raised quite a number of seedling raspberries, which were named and described as distinct ; yet it is doubtful if anything but his Orange, a fine sort, was really distinct. In a lot of seedlings raised by us some years ago, we fancied we could detect a difference in the plants ; but it was so slight we thought it not worth encumbering our catalogues with new names, unless showing some decided improvement.

We commend the remarks of Mr. Rivers upon raising raspberries to the attention of cultivators, for we believe there is room for improvement. Why may not our hardy native kind be improved by hybridization, so that we may have a really hardy plant, that will not need protection, and a fruit equal to the Knevet's Giant ? We think the experiment worthy of trial. Mr. Rivers's hybridization of the Ohio Ever-bearing shows that something may be done with this ; for it has wrought greater changes than any of the English varieties. If the size of the Doolittle could be improved it would be very valuable ; and why may not this be done ? We certainly thank Mr. Rivers for this timely contribution of facts relative to his experience in raspberry growing, and trust it may awaken a new interest in this excellent fruit:—

RASPBERRIES.—Although the raspberry may be, in the estimation of many, one of our inferior fruits, it has been made so fertile in variation that more than usual interest has been felt in its cultivation. I therefore trust that if I give it more space than it may be thought to deserve as a garden fruit, I shall do so because the facts I shall have to detail may be of interest to the physiologist.

About thirty years or so since, I received from a gardener living at Wethersfield, in Essex, a plant of what he called the black raspberry, which he said was a hybrid between the

blackberry (*Rubus fruticosus*) and the Red Antwerp raspberry, and which gave purple fruit. I cultivated this sort, and soon found that it differed much in its habit from any raspberry known, making very strong curved shoots of a dark purplish brown, from eight to ten feet in length in one season, and giving fruit of a purplish rose color, very acid, and very different to any other varieties.

From this sort I commenced to raise seedlings many years ago, and found that there was but little variation in the fruit, although the canes of some were very full of spines, while others were nearly smooth; but all were summer-bearing raspberries. I must here state that I disbelieved the assertion of the person who sent me the original plant, of its being a hybrid between the blackberry and raspberry, on the ground that the former flowers in August, while the latter flowers towards the end of May, in average seasons; so that unless artificial means were used to force the blackberry, so as to make it flower with the raspberry, no crossing could take place. I then came to the conclusion that it was probably a cross between the dewberry (*Rubus cæsius*), which flowers in May and June, and the raspberry, which I believe to be the fact. I continued to raise seedlings from my seedlings for three or four generations with scarcely any change, till in one batch I observed in the autumn some ten or twelve canes of a totally different habit from the rest, for they were of a bright bluish tint, with a bloom of the color of plum bloom, and the ends of the canes were then (September) full of flowers and fruit, some of which were commencing to ripen. I was at first totally at a loss to account for this sudden change, till on looking over the canes whence I had gathered the seed I found that one plant of a new kind of raspberry which I had recently imported from America had been planted at the end of the row of my black raspberries. This sort was sent under the name of the "Ohio Everbearing Raspberry," said to have been discovered growing wild in Ohio by Mr. Longworth. I found the canes of this sort of the same bright blue as those of my seedlings, and like them full of flowers and fruit, which when they ripened were small, very firm and compact, with a peculiar web-like film spread over

each berry, and of a very dark purple, like the wild American summer raspberry, called the Black Cap.

I at once saw that to this sort I owed my hybrids. I must here observe that although the Ohio Everbearing raspberry, in common with other autumn-bearing sorts, gives its full crop on the young canes the growth of the same season, it gives flowers and small inferior fruit in summer on canes of the preceding season; this will account for my summer raspberries being hybridized by it.

In the course of the winter following my discovery, I selected all my blue-caned seedlings, and formed a row of them a long distance from any sort of raspberry, hoping to keep the stock pure. In the autumn of 1859 my seedlings all bore a plentiful crop, and to my great delight all gave fruit of a good size and of the same dark purple color, and very remarkable for their flavor—a combination of the blackberry and raspberry. I must confess I was much interested in these raspberries, for they seemed a new creation. I even began to think that I had established a species, thought about “selection” and other ideal matters, for the canes, the leaves, and the fruit were all so perfectly *sui generis*, as to lead one to that train of thought.

In the autumn of 1859, I had all the finest fruit of these autumnal black raspberries selected, and the seeds sown. In 1860 I had an abundant crop of seedlings, of which I took more than usual care, for they were planted on an old hot-bed, and by the end of summer were two or three feet high. Nothing in garden experiments could be more interesting than my crop of seedling raspberries, and alas! nothing to me more disappointing, for instead of finding them all alike with blue canes and habit like their parents, I found on close examination that some of the canes were red, some white or yellow, some purple, and so on, and their leaves—never could we imagine such a diversity. Many of them nearly as large as those of hollyhocks, and nearly as rugose; some of the plants were stout and full of spines, like the common blackberry, others perfect pigmies. In 1861, all these seedlings were planted out thinly, so as to give them space to grow and bear fruit; some hundreds of them gave fruit, and all those

with blue canes gave purple fruit, like the parent stock, but a great number gave red fruit, small and worthless. Some twenty or thirty gave fruit of a pale yellow, and a few canes bore bright orange-colored berries. One among them was remarkable for giving in October some of the largest and most beautiful orange-colored raspberries ever seen; but strange to say, although as a rule yellow raspberries are much sweeter than red, yet my orange-colored seedlings were acid, and seemed to combine the blackberry with the raspberry flavor; but there was no end to their diversity in size, color, habit, and flavor. I have been, and am, totally at a loss to account for this, particularly as regards the orange-colored and pale yellow varieties, for my row of black raspberries, whence the seed was gathered, is at least from 500 to 700 yards from any yellow variety.

It would seem as if my original black raspberry, stained with the nature of the dewberry, was open to change more than our common kinds of raspberries, so that its flowers, fertilized with the pollen of the Ohio Everbearing by the bees, produced fruit (seed) which has opened up new races of raspberries unlike any ever produced in our gardens. How wonderful is all this!—that one foreign plant has through accident wrought such changes, for it must be stated that the seed of our common kinds of red and yellow summer raspberries, although growing near plants of the Ohio Everbearing, has produced plants with little or no variation. I have also raised many hundreds of seedlings from those two well-known autumn-bearing varieties, the October red and yellow raspberries (*Merveille des Quatre Saisons* of the French,) thinking that as the Ohio Everbearing had wrought such changes in my summer-bearing black raspberry, it would from blooming at the same season as the above-mentioned autumn-bearing sorts, and growing with them so that the bees would fertilize the flowers—it is very remarkable to find the flowers given by these autumn-bearing raspberries in August and September most attractive to bees, which swarm on them—and have some extraordinary effect on the seed given by the October red and yellow sorts. Seed was sown, some hundreds of plants were raised, all of which have borne

fruit, but not a single deviation can be found at all marked—all produce fruit like the parent sorts, varying a little in size; leaves and shoots are all alike.

The following fact seems to give more interest to my hybrid raspberries, and to make them appear to be of a distinct race. They do not put forth suckers from their roots like our common sorts, but, on being cut down annually, they form “stubs,” like those in a wood cut periodically, with but few and, in most cases, no suckers.

Seedling raspberries from the Yellow Antwerp produce, for the most part, yellow fruit with but little variation, except that a few will give red fruit. It is rare to find any variety worth perpetuating among them. Seedlings from the Red Antwerp and Fastolf also vary but little. In France the latter is said to have produced both the yellow and red October raspberries (*Merveille des Quatre Saisons*), which I have referred to above, and which reproduce themselves from seed with but little variation.

STRAWBERRIES.—There are but few horticultural employments more interesting than raising strawberries from seed. If some ripe berries are squeezed flat, laid on the surface of some mould in a flower pot, and the flattened pulp covered with a covering of fine earth to the thickness of a crown piece—if all this is done in June, and the surface of the mould covered with a piece of slate or tile to keep the seeds from being disturbed by heavy rains or vermin, a large crop of young plants may be expected in April or May following; and these if planted out thinly, will in the following year bear a full crop of fruit, some of which may, in the opinion of the raiser—for do we not love our children?—be worthy of bearing the names of the kings, queens, and princes of the earth.

“Time flies away,” as the church clerk at a village in Essex once translated and transferred to his sign-board “*Tempus Fugit*.” It is more than twenty years since that my brother, who was addicted to crossing turnips, and other bucolic matters at which we gardeners are apt to look with lofty eyes and a little contempt—for do not the farmers think much of themselves, and are they not patted on the back by

great men, and have they not a Royal Society with imperial resources, and are they not addicted to taking more pleasure in looking over a flock of fat "ship," as my old neighbor used to call them, than at a fine house of peaches or grapes, much to our distaste—well, my brother sowed a considerable quantity of the seeds of Myatt's Eliza strawberry, and the young plants when planted out here formed a large bed; it was interesting to see such a level mass of foliage. The second year they all or nearly all bore fruit, and then in the centre of the bed was discovered one plant with comparatively large leaves, and forming a robust tuft. This sort gave large fruit, very different from the parent sort and its surrounding brethren, all of which partook largely of the stock they were raised from, and, as we then thought, were not worthy of being named, although it has often occurred to me since then that many of them were more worthy than many new kinds recently introduced. The robust-growing seedling was named the Seedling Eliza, and has now made its way to a high place among strawberries. I mention this remarkable sort making its appearance amongst a crowd of others, because it reminds me of the method of raising seedling roses in France. Large quantities of seed are sown, and the sower is often rewarded by a fine variety—one in 500 or 1000, perhaps—making its appearance in the midst of a crowd—a specimen of "natural selection," and worthy of cultivation.

The most difficult strawberries to break into by crossing, are the Hautbois and Alpine varieties; millions of the latter have been raised from seed, but up to the present time no fruit-bearing cross-bred varieties have made their appearance. Several sorts have been introduced varying in the size and flavor of their fruit, but no Alpine strawberry with the autumn-bearing propensity peculiar to the race and partaking of the size and flavor of the British Queen, has yet been raised.

The Hautbois strawberries are also very obstinate in their adherence to race, a cross with the Alpine seems as if it would not be unnatural, looking at the races in their wild state; but although said more than once to have taken place, it has not, that I am aware of, yet occurred.

A few years since a variety was raised at Bordeaux, said to be a cross between the Alpine and Hautbois, bearing freely in autumn and partaking in its flavor of both sorts. The first season after its introduction it bore freely in the autumn, and one almost fancied that what had been said about it was true, for its fruit in September, with a little stretch of imagination, seemed to taste like the Alpine. This habit of bearing in the autumn soon ceased, and the sort—evidently a seedling—proves to be much like the Prolific Hautbois, only more vigorous and a more abundant bearer. I have expressed my belief of this variety being a seedling because I have found that seedling Hautbois strawberries for one or two seasons have a great tendency to produce flowers and fruit late in autumn, and then relapse into the habit of the race.

Feeling interested in the Belle Bordelaise strawberry, I sowed the seeds of nearly all my first crop, and raised hundreds of young plants: trusting, as in the case of the seedling Eliza, to nature or chance making a selection. I planted them in a large bed, and was not disappointed, for in the midst of a crowd of luxuriant seedlings, all with the true Hautbois character, I one day saw a cluster of magnificent berries peeping through the leaves of its neighbors. They were the largest berries of this race I had ever seen. On looking more closely into the bed, I found another cluster of berries nearly as large; all the rest of the seedling plants gave berries of a very inferior size, and were destroyed. The first sort selected I distinguished as No. 1, the second as No. 2. No. 1, in 1862, gave very fine fruit, and bore abundantly; No. 2 proved a failure, being late in ripening and inferior in flavor. Seedlings from the seedling Eliza retain the robust habit of the parent, but their fruit up to the present time has not been found equal to the parent stock. Seedlings from Carolina Superba seem to give hopes of a more robust habit than the parent. On the whole, seedling strawberries are most interesting, but the raiser must not have high hopes, for it is necessary to test all by high standards, such as the Queen, Carolina Superba, and some others that are of high excellence. In 1861-2 a large bed of seedlings, some thousands in number, all raised here from a few choice sorts, bore

abundance of fruit; their variation in growth was most remarkable; some were dwarf and compact, some tall and straggling, and the variation in the shape and size of their fruit was also remarkable; and more so, there was scarcely a bad strawberry among them—but not one was superior to our well known and popular varieties.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

ON ACCLIMATING PLANTS. BY MR. JOHN STREET. JULY, 1826.

THE author, after many years of experimenting with tender exotics, arrived at the following conclusions, in regard to the art of acclimating them. He found that poor, dry, and shallow earths and declivities are particularly well adapted to preserve many plants during the winter season. The quicker the superabundant fluid passes away from their roots, the better. When excess of rain or moisture, and severe frost happen nearly together, plants generally suffer much more than by dry frost. If the situation of the plants be dry, frost does not hurt them so soon as if it be wet. Many kinds of plants certainly can endure a more uncongenial climate or situation than their native place of growth.

He also found that plants obtained from cuttings are hardier than seedlings; the roots of the former seem to possess more ability to resist severe weather. He, therefore, planted out cuttings, if well rooted, in preference to seedlings. Several kinds of plants endure the winter much better while they are small than when they become large. By keeping some plants short of food, it helps to preserve them in the open air. Many plants require but very little moisture; and if they are sunk in their pots in the open border, with the hole at the bottom of the pot left open, they will endure the winter better than if turned out of the pots.

Underdraining is another advantageous practice. Some small drains, which conveyed the water from the water-pipes attached to the roof of the writer's house, cross a border about

eight or ten inches under the surface. Over these drains and by their sides, he planted out with success several reputed greenhouse species, at several periods.

Several small species of plants may be preserved in the open border, by placing an empty flower pot over them, during winter. In this way the *Stachys coccinea*, a native of Chili, was preserved in very severe winters, grew well and ripened seeds. One year he planted out *Tenerium Marum*, indigenous in Spain, in the open border, in its pot, in a place with a dry bottom, and full exposure, some sandy gravel being put over the surface. It endured the winter without any other protection, and throve well. He did the same with many other tender plants, and met with equal success.

Mr. Street had adopted two methods of naturalizing plants. One by exposing them in the open border, the other by raising young plants of exotics from seeds ripened in the open air. The last he considered the most effectual.

ON PLANTING THE MOIST ALLUVIAL BANKS OF RIVERS WITH FRUIT TREES. BY MR. JOHN ROBERTSON. SEPTEMBER, 1826.

Few situations combine so many advantages for the plantation of orchards or fruit gardens, as the low grounds that form the banks of rivers; the alluvial soil of which they are generally composed being an intermixture of the richest and most soluble parts of the neighboring lands, with a portion of animal and vegetable matter, affords inexhaustible nourishment to fruit trees, which derive from it such habits of health and vigor, that when sheltered by the higher grounds, which mostly accompany these flats, they set their bloom securely, and ripen their fruit to a degree of perfection, rarely exhibited in more exposed and less congenial situations. To this, the mild and moist temperature produced by the neighborhood of the water, in no slight degree contributes, counteracting the late spring frosts and blighting winds, so destructive to fruit crops in the earlier part of the season.

But these advantages are too frequently counteracted, and rendered of no avail, by the operation of the same cause as that from which they are derived, such grounds being generally liable to be inundated; and should the water lie long

on them, it chills and sours the soil, and destroys the roots by canker.

The author remedied this evil, in one case of his own experience, in the following manner: He took the opportunity of a dry summer, to run between each row of trees, two deep and parallel trenches, and formed a high bank in the intermediate space, with the earth cast out, a small portion excepted, which was thrown about the stems of the old trees. On these banks, as they contained a sufficient body of soil, and were elevated above the reach of floods, he planted other fruit trees, the ensuing season, which prospered remarkably well, and bore fruit abundantly.

He also saved the old trees by a peculiar method, recorded in his communication. He remarks that we have numerous proofs that the vicinity of water, not pent up, but exposed to the air, is not injurious to trees. Some of the most productive and healthy vines he had seen, bordered on a horsepond. Security from inundation and the advantage of a deep rich soil, are not the only benefits that fruit trees derive from growing on such sloping banks. The form of these banks also contributes mainly to insure success, as the roots of trees so planted are always necessarily protruding to the surface, where they receive more immediately the direct influence of the air, rain, sun, and other agents conducive to vegetation, and are thereby more perfectly enabled to form from the simple elements they absorb, those combinations which are exhibited to us, in such a wonderful variety of products.

The Dutch have long been aware of the advantages such banks afford, and wherever the situation will admit, have planted the sloping sides of their dykes with fruit trees. The author had long observed that the most fruitful orchards, and the most fertile, are those planted on a declivity, and the steeper it is, if not quite a precipice, the more fertile it proves.

In preparing low, alluvial grounds for the purpose of planting orchards, the mounds or banks cast up should run parallel with the river, to impede the washing away of any of the soil. One or more cuts at right angles with the trenches

should communicate with it to facilitate the drainage of the water; and to these sluices may be attached, should circumstances require it. These banks should be raised, if possible, at least three or four feet above the highest water mark, and be made eighteen feet broad at the base, and twelve at top. For this purpose, a cut of fifteen or sixteen feet wide will be necessary, admitting the soil to be three or four feet deep, leaving a distance between each row of fruit trees, of about thirty-three feet; but these proportions must depend on the depth of the soil. The trees, when at their full growth, will require a distance from each other in the lines, of about thirty feet; but as they are likely soon to be productive, he recommended planting them at first at half the distance, and removing every other tree afterwards, when they shall injuriously interfere with each other. The sides of such banks he found to answer extremely well for strawberries, on account of the convenience of water in a dry season.

ON THE GRAFTING OF PEARS UPON QUINCE STOCKS. BY THOMAS TORBRON. JANUARY, 1827.

The grafting of pears on quince stocks has been the subject of a great deal of experiment, and the public is much better informed on this subject than when this paper was written; but it may not be a misspense of time to review some of the experience of a past age, when the subject was new. It was contended by the author of this paper, that by grafting choice sorts of pears upon the quince, they come several years sooner into bearing, and produce much better crops than those upon the common or free stock.

The writer had opportunities of seeing the superiority of the quince stock in three different counties, and with as many different sorts of soil, and found no disadvantage whatever in it, though some disapproved of it. Pears on the quince, he remarks, require less wall room at planting; but an equal space of wall occupied by trees on quinces, will produce from three to five times the quantity of fruit which could have been obtained from trees on pear stocks, and the fruit in no respect inferior. This fact he ascertained by

actual measurement of the fruit, in both cases, under several different conditions, compared with the amount of space occupied by each. Those on the pear stocks occupied much more wall space, but those on quince stocks produced much more fruit.

Mr. Alexander Seton adds a note to the above remarks, the substance of which we give, as follows:—He has found that a stiff, clayey, or loamy soil is unfavorable to pear trees, but that quinces, and pears grafted on quince stocks, thrive in it exceedingly well. Wherever, therefore, soils of this nature are prevalent, the means are thus afforded, by the use of quince stocks, to persons in such situations, of cultivating to advantage many varieties of pears, which would never bear fruit in sufficient quantities, if grafted on their own species.

On the other hand, he observed that in a light gravelly soil, with a gravelly or sandy bottom, pear trees succeed better than quinces; and in such situations the pear stocks would of course be preferable. This was experienced by the Society a few years previous to the time of writing, in a temporary experimental garden which it had at Kensington, and which consisted of a soil like that last mentioned. There the pear, grafted on quince stocks, did not succeed so well as others.

It is necessary also to attend to the seminal varieties of stocks. All plants vary in their character when raised from the seed; and, among other peculiarities, there is a great diversity in their vigor and power of retaining health and luxuriance in various soils and situations. To this may often be rightly ascribed the difference which is to be met with in the health and productiveness of grafted trees of the same variety, in the same situations. As in many cases, the same variety cannot be advantageously propagated for stocks, the best course to pursue, is to mark the most healthy individuals among the seedling plants.

POMOLOGICAL GOSSIP.

MR. NICE'S MODE OF KEEPING FRUITS.—Mr. Benjamin Nice of Decatur, Ind., has made some experiments in keeping fruits, which he detailed at some length before the Ohio Pomological Society, a year ago, the substance of which appears in the Proceedings of the Society, just published, and which also has been described at length by R. T. Brown of Indianapolis, in the Ohio Farmer. In the main the system is little different from that introduced about Boston a few years ago, and which has been tried by Hon. M. P. Wilder, who had a room fitted up on purpose to give it a fair test. Mr. Nice's mode of getting rid of the moisture is the same as that adopted by some French pomologists, as described in our Magazine some years ago, (Vol. XVIII., p. 116.) That our cultivators may understand the system as explained by Mr. Brown, we copy his article entire:—

Some years ago, Liebig discovered the analogy between the slow decay of vegetable substances and fermentation, and settled many things in reference to temperature, moisture, and other circumstances under which these actions take place. Susequent experiments confirmed the deductions of Liebig, and fixed the range of fermentation between 40° and 180° Fah. Appert, a French chemist, introduced the practice of heating vegetable substances to 180° or above, and at that temperature, excluding them from the air, and thus effectually preventing fermentation. This method has now become so common that it has nearly revolutionized this department of domestic economy.

Mr. Nice, of Greensburg, Ind., a few years since, conceived the idea of availing himself of the margin between the fermenting point (40°) and the freezing point below (32° .) His first trouble was the presence of moisture in the atmosphere; this, however, he effectually remedied by the use of Chloride of Calcium, which, by absorbing the moisture, renders the air perfectly dry. Having obtained favorable results, he secured by patent his discovery. In the summer of 1860, Messrs. Fletcher, Williams & Vancamp erected in this city a

large house for the purpose of testing the economical value of Mr. Nice's discoveries. As early as ice could be procured last winter, they put their house into operation. About one thousand bushels of apples, consisting of Bellflowers, Rhode Island Greenings, Rambos, Russets, &c., constituted the first experiment. These were put into the market last June, as perfect in every respect as when they were taken from the tree, and with a very trifling loss in quantity. Last summer, various experiments were made on small fruits, with very encouraging results. Raspberries and strawberries were kept eight weeks, after which they lost their flavor, though they showed no evident marks of decay.

Gooseberries, currants and cherries were kept in good order for a longer period, giving evidence that, with proper care, they may be kept the year round. Peaches, in ten weeks, showed evidence of decay; the skin sloughing without material discoloration. Of pears, about two hundred and fifty bushels were housed, and are now in a fine state of preservation. Among these are the Sugar pear, the Bartlett, Seckel, Flemish Beauty, and several other varieties of summer and fall pears. Present appearances indicate that they will be sound next summer. Grapes that were in good condition when housed, have not the slightest degree changed either their appearance or flavor. A lot from the Cincinnati vineyards, that were much bruised in transportation, suffered loss for the first ten days after being deposited, but have undergone no sensible change since. The stock on hand is about one hundred and fifty bushels. I predict that the company will market grapes next June in good condition. Oranges, lemons, pine-apples, bananas and other tropical fruits, may be kept for months at any season of the year. Of the last crop of apples, two thousand five hundred bushels are on hand, in a most perfect state of preservation—the Fall Pearmain, Maiden's Blush, and Rambo, keeping as well as the Newtown Pippin, or Romanite. A small lot of sample apples, of the fruitage of 1860, are on hand, looking well, and retaining their flavor in a remarkable degree.

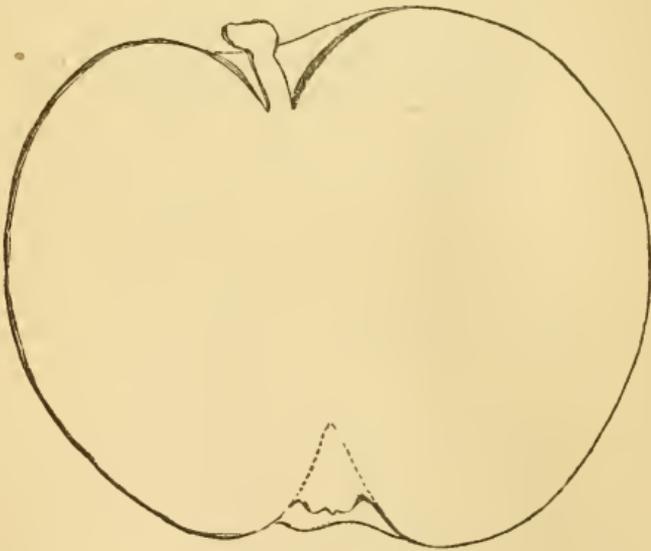
The results thus far obtained, warrant us in concluding that in all climates where ice can be obtained, the standard

fruits may be furnished at all seasons of the year, at prices which will bring this luxury within the reach of every family; thus largely increasing fruit consumption, and proportionately stimulating fruit culture.

DESCRIPTIONS OF SELECT APPLES.

BY THE EDITOR.

LAST year the crop of apples was unusually large, and very fine; and many varieties of more recent introduction produced much finer specimens than heretofore, the trees becoming larger and stronger, and better fitted to show their real qualities. We were thus enabled to decide more correctly upon the qualities of some kinds, as yet but partially known. These we shall hereafter describe and figure. We now present the descriptions of three varieties.



11. RED RUSSET.

LXXI. RED RUSSET.

The origin of this apple, which we have before noticed, is uncertain. It is stated to have been found on the farm of Mr. Sanborn of Hampton Falls, N. H. It was introduced to

notice by the late Mr. Cole, but is yet cultivated to a limited extent. As it becomes better known it will undoubtedly find a place in every good collection of apples. Its remarkable keeping qualities entitle it to especial notice; our drawing (FIG. 11) being made as late as last month (June) when the specimens were fresh and excellent. The tree is vigorous and productive.

Size, rather large, about three inches broad, and two and a half deep: Form, roundish, somewhat ribbed, full at the base, narrowing little to the eye: Skin, little rough, dull yellow, more or less covered with thin cinnamon russet, with a marbled red cheek on the sunny side, dotted and traced with russet: Stem, short, less than half an inch long, stout, and inserted in a small contracted cavity: Eye, rather large, open, and set in a rather deep, open, and somewhat ribbed basin; segments of the calyx broad, recurved: Flesh, yellowish white, crisp and tender: Juice, tolerably abundant, with a rich brisk flavor, similar to the Baldwin: Core, medium size, nearly closed: Seeds, rather large, dark brown. Ripe from January to June.

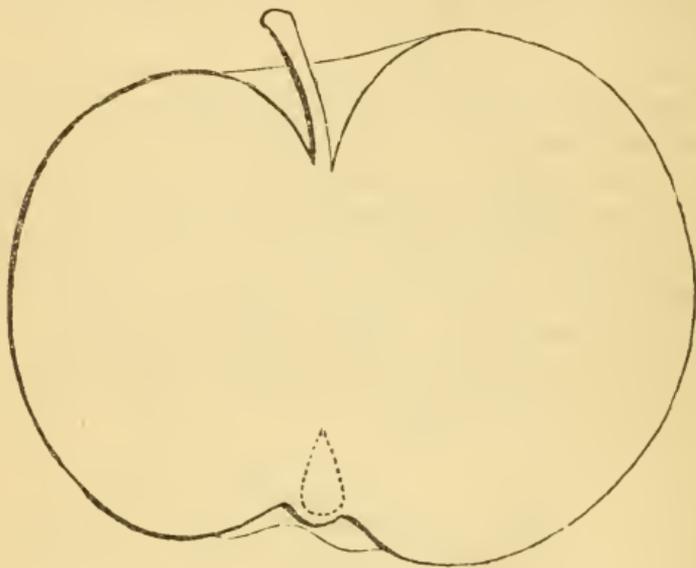
LXXII. WAGENER. *Transactions* New York State Agricultural Society, 1848.

This very fine apple (FIG. 12) originated in Penn Yan, Yates County, N. Y., from seeds taken to that place from Dutchess Co., and sown as long ago as the spring of 1791, by Mr. George Wheeler. In 1796 Abraham Wagener purchased the seedling nursery, and planted out the trees on his place, and from him the fruit takes its name. The parent tree, a few years ago, produced annually an abundant yield of beautiful and delicious fruit.

That so good an apple should for so long have remained comparatively unknown, seems rather surprising; and its introduction to notice is undoubtedly due to the deep interest taken in all fruits, and the liberal premiums offered by our Horticultural and Agricultural Societies for the finest specimens. This brings them where they are seen and appreciated by zealous pomologists, after which, if valuable, their qualities are soon made known.

The Wagener is a very vigorous growing and handsome tree, running up in a pyramidal form, something like the Northern Spy. It bears young, and abundantly.

Size, medium, about three inches broad, and two and a quarter deep: Form, roundish oblate, slightly ribbed, largest about the middle: Skin, fair, smooth, with a yellow ground, nearly covered with bright vermilion red, deepest on the



12. WAGENER.

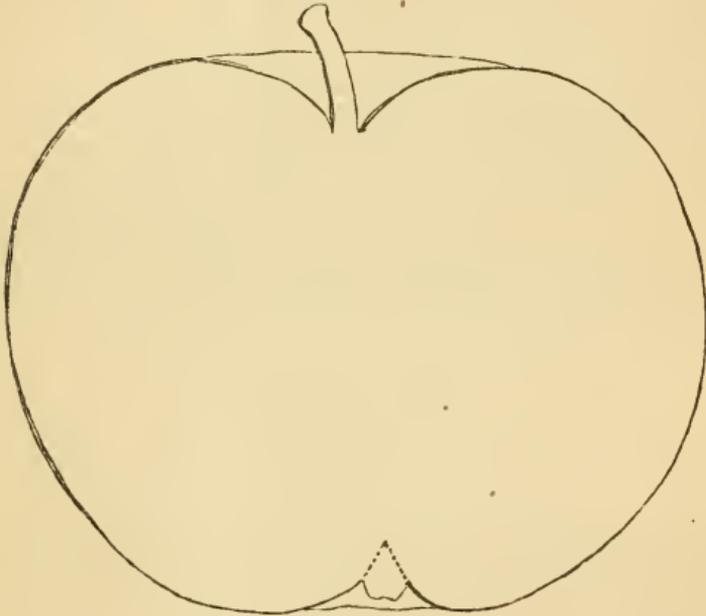
sunny side, indistinctly and finely striped, and dotted with minute yellow specks; Stem, medium length, about half an inch long, slender, and rather deeply sunk in a somewhat open, moderately deep cavity: Eye, small, closed, and but little depressed, in a broad, suddenly shallow basin; segments of the calyx short, entire, slightly woolly: Flesh, yellowish white, fine, crisp and tender: Juice, abundant, pleasantly acid, and high flavored: Core, medium size, closed: Seeds, rather large, broad, light brown. Ripe from Dec. to April.

LXXIII. CIDER. Coxe's *View of Fruits, &c.*

Syn. Smith's Cider. *Fruits and Fruit Trees.*

This old apple, described and figured by Coxe nearly fifty years ago, has, within a few years, attracted much attention,

and been highly praised at the various meetings of our Pomological Associations: in some instances very highly commended, and in all spoken of as a valuable apple. Coxe states that it is a pleasant fruit, but its chief merit was as a cider fruit, and hence its name. Where and when it first obtained its name of Smith's Cider, we do not know, but as we can see no reason why it should be so called, we have thought the original name of Coxe quite as expressive as that of its present cognomen, "Smith's Cider." Two years ago a tree in our collection came into bearing, and although we



13. CIDER.

had heard something of its production we were astonished at the abundance of the crop. The limbs, which shoot up at a broad angle, were literally loaded with large handsome apples. Coxe says it "bore beyond any other tree in his orchard," the limbs requiring to be propped up to prevent the branches from being injured by the weight of fruit.

Last year the crop was more moderate, and the specimens large and handsome, keeping well into winter, when we found it a decidedly excellent apple, and thought its merits had not been overrated. The name conveys the impression it is only a cider apple; but though very valuable for that

purpose, it is no less valuable as a table fruit. At the various meetings of the American Pomological Society it has been highly spoken of; and in the Catalogue issued with the last volume it is double starred (***) in Missouri, New Jersey, Central Ohio, Western New York, and Eastern Pennsylvania, which mark distinguishes those most highly recommended. In fact, there are but three or four other apples which stand so high in the Catalogue.

Size, medium, about three inches broad, and two and a half deep: Form, roundish, broadest about the middle, narrowing regularly to the eye: Skin, fair, smooth, greenish yellow, very distinctly striped with lively red, and dotted with russet specks: Stem, short, about half an inch long, slender, and inserted in a broad, rather shallow cavity: Eye, medium size, closed, and but slightly depressed, in a very shallow, little furrowed basin: Flesh, yellowish, fine, crisp and tender: Juice, abundant, pleasantly acid, well flavored and good: Core, medium size, slightly hollow: Seeds, rather large, dark chestnut color. Ripe from November to January.

GARDEN GOSSIP.

WELLESLEY, THE RESIDENCE OF H. H. HUNNEWELL, ESQ.—A visit to Mr. Hunnewell's place, while the rhododendrons and other American plants were in bloom, is a treat we have often wished for, but one which we have not been able to enjoy. Their beauty we could easily imagine, from an inspection of the plants, at our occasional visits, later in the year; but we were desirous of seeing them in flower. Early in June we passed a few hours in a ramble among them, and through the grounds generally, which were in fine order. The many fine coniferous trees had wintered well, and though but just putting forth their new growth, their vigor and health were at once apparent. We were surprised and delighted to find some of the new sorts had proved so hardy as to show no trace of the winter's cold upon the branches or foliage.

Last autumn Mr. Hunnewell replanted nearly the whole

of his rhododendrons, azaleas, and kalmias; they had been put in somewhat at random, originally, just where an open space offered the opportunity; and they had grown so much more vigorous than Mr. Hunnewell had expected that they soon became one mass of foliage. To give them a good chance they were all reset, and they look as healthy as if they had not been transplanted. The work was done through August and the early part of September last, and though not so full of bloom as they might be, they were sufficiently so to present a superb appearance: another year they will be one blaze of bloom. This experiment of Mr. Hunnewell's is valuable, for it shows how safely these plants can be removed at almost any season of the year, and how well they stand the winter after the operation. Now is the time to commence the preparation of ground for a plantation of rhododendrons, and by August it will get well settled, and ready for the reception of the plants.

The conifers, as we have said, looked finely. The exquisitely beautiful *Cupressus Lawsoniana* appeared as fresh as a hemlock, and the scarcely less beautiful *Thujopsis borealis* equally as bright and vigorous; both may be set down as perfectly hardy, and the two finest acquisitions we have had for a long time. Other trees, which had gone through the winter, in fine order, were the Golden Yew, which is quite hardy, and very ornamental, with its golden variegated foliage. *Thuja macrocarpa* is a very fine tree, with something of the color and foliage of the Chinese, but entirely hardy. *Cephalotaxus Fortunei* proves perfectly hardy, and well supplies the place of the *Torreya*, which will not stand our climate. *Taxus japonica* is pretty and hardy. *Larix Kämpferi*, the new Golden Larch, from China, introduced by Fortune, has been out through the winter, and proves as hardy as the Scotch. This is a decided acquisition; the color being a lively yellow green, it has not the sombre hue of the former. The beautiful *Retinospora ericoides*, as hardy as a hemlock, is one of the very finest trees for a small collection, its foliage as delicate as some of the heaths, which it resembles. These are but a few of the newer trees, whose hardiness is now beyond doubt.

The Italian garden, with its clipped trees, presented its peculiar characteristics in varied contrast with the lawn and pleasure grounds. The Yuccas, Agaves, and other plants, which fill the vases ornamenting the parapets, have attained considerable size, and now produce a fine effect.

Around the house some alterations have been made; a fine group of Rhododendrons has been planted, and several very large Agaves and Araucarias have been added, which give a grotesque variety, and add a more tropical aspect to the place.

The kitchen garden and forcing houses, under the charge of Mr. Harris, were in admirable order. The orchard-house had been cleared of the trees which were partially plunged out in a protected spot, and well mulched with manure and short hay.

There was a good crop of plums, peaches, apricots, nectarines, and pears. The trees were compact and bushy, in moderate sized pots, and promised good results. In the grapery the Golden Hamburgh, Bowood Muscat, Muscat Hamburgh, Lady Downe's, and other grapes, had a fine crop, and were making strong wood for next year. We were delighted to find them setting so well, as it has been stated that the Muscat Hamburgh was faulty in this respect; but we found the bunches large and perfect; it is a superb grape. Of strawberries Mr. Harris has found the Marquise de la Tour Maubourg to prove a good forcing berry; setting well, and swelling its fruit readily: a large crop had been gathered from a few dozen plants in 7-inch pots.

Our visit was simply to witness the rhododendrons and azaleas, but we could not omit a notice of much that we saw in our rather hasty ramble. Mr. Hunnewell's zeal and enthusiasm is unabated, and every year adds some new feature and many new plants to his already large and fine collection of trees and shrubs.

THE TEA ROSES.

BY WILLIAM PAUL, NURSERIES, WALTHAM CROSS.

THE Teas are a delightful class of roses, and invaluable for in-door cultivation; without them our conservatories would be almost barren of beautiful roses in winter, and our autumnal gardens would lose much of their beauty. True, we could have Lamarques, Souvenirs, and Amie Viberts, but where should we look for the delicious odor of the Teas, or the exquisite tints of their long, gracefully formed and beautiful buds?

The Bengal roses, with the exception of a few high colored kinds, there being few if any among the Teas, have been quite neglected for the latter; because they flower no more freely, their blossoms are generally smaller, and without the powerful odor distinctive of the class of Teas.

So beautiful and desirable, the French cultivators have turned their attention to the improvement of the Tea Rose, and with nearly the same success that has attended their efforts with other roses. In fact, all the varieties are of French origin, except the *Devoniensis* and *Isabella Gray*. From the fine old yellow, originally from China, have been produced all the shades of yellow, fawn, saffron, and coppery rose, often two or three in the same flower; and from the weak growing, quite tender, but truly beautiful yellow and blush, have been raised the vigorous, strong growing, and almost hardy sorts, like *Gloire de Dijon* and others. So that the original defects of habit have not only been improved, and their colors varied, but the strong perfume all retained. We now have Tea roses as easily cultivated as the old China, as free blooming, and so hardy that they require only the cold frame to winter them safely.

But the Teas, like other plants, only show their real beauty under proper treatment. As much as we admire a pretty plant in a small pot, it gives no fair criterion of its beauty. It is no uncommon thing to hear travellers who have seen them under Italian skies, lavish their praise upon the lovely Tea roses which ornament every villa, and cover the verandas and arbors, as the *Prairies* and *Boursaults* do in our own

climate. To those who have not enjoyed all this, but who have been pleased enough with half a dozen half-starved blossoms, on a petted plant, it seems to border on the marvellous; yet, where the opportunity has occurred to see them in our greenhouses, where they have "room and verge enough," the story becomes a reality. So the English cultivators have at last found out; and it is only since such skilful cultivators as Messrs. Paul, Lane and others have grown huge specimens for exhibition, six feet high and three feet through, literally covered with the freshest blossoms, that the Tea rose has claimed the place it is preëminently fitted to occupy.

In our climate, so much warmer than that of England, the Tea roses flourish in greater perfection, and, turned out into a rich soil, bloom throughout the summer and autumn. Taken up and potted in October, and sheltered in a frame till cold weather, then pruned and removed to the conservatory or greenhouse, they give a generous return of blossoms which is continued all the summer, treated as before. When the object is to produce fine large specimens they should not be turned out into the border, but be repotted, and plunged, and removed to the frame before any severe frosts injure the unripened wood. In this way, with a renewal of rich soil, they soon form handsome specimens, and amply repay all the extra care and trouble.—Ed.

The Tea-scented is the only first-class group that remains unnoticed, and this is quite worthy of a separate paper. It is unfortunate that the most beautiful varieties are, as a rule, the tenderest. Those who have grown them out of doors only, can form no idea of their increased beauty when cultivated under glass. Plant them out in a house with or without heat; if heat be employed they will grow stronger, bloom earlier, and suffer less from mildew. The strong-growing sorts may be trained to pillars, or up the rafters of the house in the way of vines, and will produce flowers from every joint. The intermediate and dwarfer kinds may be grown as pyramids and bushes. Tea-scented roses succeed admirably grown in pots under glass, especially if worked on the Manetti, and require little pot room and little pruning

when in a young state. If grown out of doors the best plan is to plant them in a border in front of, but a little distance from a south wall, for if fastened to the wall they are liable to suffer from the attacks of red spider. Budded on the Dog-rose in August, and allowed to remain dormant through the winter, they form beautiful objects in the flower garden during the succeeding summer and autumn. No lover of roses should reject the Tea-scented because they are tender, or on the assumption that they are difficult of culture; they are better worthy of a house or frame than half the greenhouse plants that are cultivated, and far easier to manage than one-fourth of the Hybrid Perpetual roses. But then they must not be treated as ordinary roses. If grown out of doors, a warm and light, rather than a moist and heavy soil is required, and they should not be pruned till late in spring (April.) Distinct in color, exquisite in form, rich in foliage, and surpassing all in delicacy and power of fragrance, they deservedly hold a very high position among the subjects of the "Queen of Flowers."

Abricoté is a good hardy free-growing sort, though scarcely vigorous; the flowers are fawn-color with apricot centres, large and double, very beautiful as buds. Adam has rosy-blush flowers, very large and full, and is one of the sweetest and best. Amabilis is a good, hardy, vigorous-growing sort, with large, full, flesh-colored flowers. Auguste Oger has large rosy flowers, with deeper colored centres, and is of moderate growth. Auguste Vacher is distinct and good; the flowers are yellow shaded with copper-color, of good average size and quite full; the growth is moderate. Belle de Bordeaux is of rampant growth, and the branches are well clothed with beautiful deep green leaves; the flowers are pink, large and full.

In addition to the above, Bougère, although one of our oldest roses, cannot yet be dispensed with; the flowers are rosy bronze, very large, full, and globular; the growth is vigorous. Clara Sylvain is a good pure white rose with creamy centre, large and full, of moderate growth. Comte de Paris is a beautiful flesh-colored flower, shaded with rose; large, full, hardy in habit, and of great excellence. Comtesse

Ouvaroff is beautiful in bud, but does not always expand symmetrically; the flowers are rose shaded, large and full. *Devoniensis*, which is an English seedling raised at Plymouth, is still one of the best; the flowers are pale yellow, very large, full, and beautiful. *Duc de Magenta* has immense salmon-colored flowers, which if few in number are of unequalled breadth and substance. *Elise Sauvage*, *Madame William*, and *L'Enfant trouvé*—for I regard these as one and the same—is one of the sweetest and loveliest of the group; the flowers are yellow with a rich orange-colored centre, and very sweet; the habit is sometimes robust, but more usually delicate. *Enfant de Lyon* deserves a special word of commendation on account of the freedom with which it flowers, and the exactitude of its form; although it resembles "*Narcisse*" a little too closely, it is of a paler yellow. *Eugène Desgaches* is quite first-class; its large, full, and globular clear rose-colored flowers are very beautiful; the growth is vigorous. *Gloire de Dijon* stands unrivalled and alone; it is as hardy as a Summer rose, having lived through the winter of 1860-61 in places where all the Hybrid Perpetual roses were killed. Flowers of this rose were sent to me from Dijon before it was introduced, and exhibited at one of the Horticultural Society's shows at Chiswick. I have seen it grow twenty feet in a season trained against a house, producing leaves of a size and substance truly remarkable; the flowers are yellow, fawn, and salmon, variously shaded, large, full, and globular. *Josephine Malton* is a beautiful but delicate rose with cream-colored flowers, large and double.

Julie Mansais, I may add, is not one of the freest of roses, but when well grown it is certainly one of the loveliest; the flowers are usually white, though sometimes tinged with lemon, large and full. *La Boule d'Or* is the deepest yellow of this group, and sometimes beautiful under glass; out of doors the buds are often as hard as a cricket-ball, and as little disposed to open; it is nevertheless desirable for its color, and is hardy, vigorous, and free. Loose petals of this rose were sent to me from Paris the year before it was introduced. I was struck with the color, but adjudged it too hard in the bud; rosists can make out a flower from a petal as physio-

gists an animal from a bone. Louis de Savoie is a fine large pale yellow rose, good for under glass. Madame Bravy is a prettily-shaped cream-colored flower, good out of doors as well as within. Madame Damaizin is very free both in growth and flowering, and hardy also; the flowers are salmon-color, large, full, and sweet. Madame Falcot is quite first-class; it is much in the style of Safrano, but deeper in color, and more double; it remains to add that it does not grow so freely as that old favorite. Madame de St. Joseph has very large salmon-pink flowers, powerfully fragrant and of great beauty; it is best under glass. Madame Halphin differs from all others; the flowers, which are large and tolerably full, vary from salmon-pink to yellowish white. Madame Pauline Labonte is a large flat salmon-colored rose, showy, and very hardy. Madame Villermoz is one of the gems of this group; the large full wax-like flowers—white shaded with salmon—and splendid foliage unite to form an object of rare beauty; the habit is also hardy, the growth free. Marquise de Foucault produces variable flowers, white, fawn and yellow, large, very sweet, of perfect outline, but not full. Moiret is a grand old rose, but one that is only occasionally to be caught in perfection; the flowers are pale yellow, shaded with fawn and rose, very large, full, and of great substance. Narcisse deserves universal cultivation; the flowers are yellow with creamy edges, perfectly circular and full, reminding one of a transverse section of a hard boiled egg; the plant is hardy, the habit good and free. Niphetos is a match for Duc de Magenta in size, though more globular in form, and of a different color—pale lemon to snowy white. President ranks also amongst the largest and most beautiful of this group, surpassing both the preceding in fragrance and form; the flowers are rose shaded with salmon. Safrano, in the bud state, is one of the most beautiful, but the expanded flower is thin and poor; the buds are apricot, the flowers fawn-color; the plant grows so freely, flowers so abundantly, and is withal so uncommon in color, that it forms a most attractive object in the garden. Sombreuil is a good hardy free-flowering white rose, of large size and vigorous growth, well suited for out of doors. Souvenir d'Elise Vardon is an in-door rose,

varying in color from white to creamy yellow, very large and of great substance; the flowers are usually few, but fine. *Souvenir d'un Ami*, or *Victoria* as it is sometimes called, is not surpassed by any other in the group; the flowers are salmon and rose shaded, large, full and globular; the constitution is hardy, the foliage fine. *Vicomtesse de Cazes*, if of loose and irregular shape, produces flowers of exquisite color, coppery yellow, and cannot be set aside as a decorative rose in house or garden; it is very sweet, free, and tolerably hardy.

FLORICULTURAL NOTICES.

NEW PLANTS AT THE LONDON EXHIBITIONS.—The Shows of the Royal Horticultural and Royal Botanic Societies have been unusually splendid this year. Not only have the old plants been produced finer than ever, but many new things have added great variety and magnificence to the displays. As the detailed reports would occupy too much space we copy the following from the *Gardeners' Chronicle*, in reference to the novelties of the year:—

The novelties produced at the Great Show held on Wednesday at South Kensington, deserve a separate notice. We take them in the order of entry.

The first class, consisting of new or rare tender plants in flower, was not very fully represented. The finest subject was *Clematis Fortunei*, and the two next best, *Clematis florida Standishii*, and a *Dracophyllum* from King George's Sound. A white-flowered Japanese *wegelia* from Mr. Standish was quite novel, and seemed likely to be a very useful shrub in its class—but it would surely have classed better with hardy than with tender plants. *Anthurium leuconeurum*, a rather nice-looking *Orontiad* taken in respect of its foliage, is not at all improved in appearance by the addition of its green spathe and spadix, as shown by Mr. Bull. Two or three garden seedlings were wrongly set up in this class.

The new or rare tender plants not in flower were more numerous. The best of them was, however, a plant already familiar from its appearance at the minor meetings, namely, *Alocasia Lowii*. *Pandanus elegantissimus*, a very elegant plant certainly, with its spiny red-edged and red-keeled arching leaves, came from three sources. Mr. Veitch's *Miconia?* *argyroneura*, the same as that mentioned as a possible *Melastoma*, was hardly so fresh-looking as on the occasion when we previously noticed it; but we have some faith in it as a useful stove plant, requiring less space than *Cyanophyllum*, and therefore useful in many places where that could not well be accommodated. A beautiful *Acanthad* from Peru, supposed to be an *Eranthemum*, also came from Mr. Veitch; this was dwarf habited like *Eranthemum leuconeurum*, but had the obtusely oval leaves picked out all over with rosy-pink reticulations, whence it might be designated *rubronervium*; but whatever name it may get, (and it will soon be in flower), it is a remarkably elegant plant. The yellow-centred *Yucca lineata lutea*, and the ivory-ribbed *Dieffenbachia Verschaffeltii* were again shown. *Areca dealbata*, a small-growing palm, from Mr. Bull, is to be highly recommended for its elegant pinnate fronds, which were white beneath, and had spiny stripes. Here was also shown by Mr. Standish, a very distinct Japanese *Acer*, the leaves of which might be said to be mostly yellow speckled over with green, so abundant was the yellowish variegation. Here also Mr. Bull showed the singular *Pogonia discolor*, with its one cordate olivaceous golden-haired leaf, looking as if cut off, and stuck into a pot of soil; some *Anætochili*—*argyræus*, which is *Physurus*-like with lance-shaped leaves silvered down the centre, and *Dayii*, which is like a dark *Lowii*; two or three *caladiums*—*mirabile*, which is very promising, thickly white-spotted on green, with yellow-green ribs and primary veins, *Cannartii* which, whatever it promises, has not yet caught up to *Chantinii*, which it was said to beat, and *Lemaireanum*, which is not half so good as *argyrites*; several ferns, of which *Adiantum Féei* and *Litrobrochia nobilis* have already obtained the highest testimonials; *Litrobrochia alcyonis*, one of Linden's plants, which is nothing but *L. sagittata*, breaking out into

the subhastate form which is its highest development; and *Gymnogramma* "Stelznerii," which was not crested as *Stelzneriana* ought to be, and wanting the cristate appendages, is worthless. A *Dichorizandra*, called *argenteo-marginata*, from the same exhibitor, was a good thing in its way, but does not differ, if our memory serves us, from one which Linden sent over some two or three years ago under the name of *albo-marginata*, and for which a second prize was then awarded. Here also Messrs. E. G. Henderson & Son showed *Coleus nigricans*, a nettle-like plant with broadly ovate leaves of a dark brownish-purple, the tips of the blunt serratures only being green. We may mention besides, a palm suitable for small collections, grown by Mr. Young, of Highgate, and called *Thrinax elegans*, which is really elegant, having light fan-shaped leaves, borne upon slender polished stalks.

Of new orchids in flower very few were to be seen. *Dendrobium Parishii* from the Clapton nursery was the best and most novel in character; this has thickish deflexed stems, which, after ripening, bear two-flowered racemes (one flower constantly abortive in the plant shown) of clear bright rosy mauve-colored flowers, not very large but abundant, the lip fringed all over, and of the same rosy hue as the sepals and petals down its centre, but marked with two large lateral intense crimson-purple blotches. *Phalænopsis Lobbii*, the same as *intermedia*, was shown by Mr. Veitch, and next to *rosea* is perhaps the least attractive species in our gardens of a genus which generally takes the highest rank amongst Orchids; its white flowers were about the size of those of *Schilleriana*, and had a rose-colored lip. Mr. Penny, of St. Dunstan's Lodge, Regent's Park, had a very fair sample of *Odontoglossum Uro-Skinneri*.

Passing on to the new or rare hardy ornamental plants, we find the judges attached the most importance to some healthy examples of the Japanese *Abies firma*, now about a foot in height; these were from Mr. Veitch. It is singular that in this promising Conifer, the leaves which are linear and bifid, and are distichously disposed, are set on on each side of the branch in three rows, in which they alternate with each other, the leaves themselves being also of three different lengths.

Mr. Veitch further showed a *Spiræa* from California, a dwarf bushy shrub with wavy sessile ovate irregularly serrated leaves, and remarkably compact small corymbs of bright rosy flowers, with long projecting white anthers. A handsome *Euonymus* called *ovatus aureo-variegatus*, from Mr. Bull, had the shining bluntly oblong leaves of a deep green with a bright golden blotch in the centre, and was a very effective shrub. Two or three ferns here shown also deserve mention, namely, a handsome crested variety of *Lastrea montana*, which came from Mr. Williams; a much cut Lady Fern, *Athyrium Filixfœmina diffissum*, from Mr. Bull; and from Mr. Ivery a sport of the Lady Fern called *Applebyanum*, a curious plant in which the characteristics of *Frizelliæ* and *Fieldiæ* appear in about equal proportions, a dichotomously forked apex being superadded.

Among seedlings the pelargoniums formed the most conspicuous feature, but few of them were fully up to the mark in technical properties. The best and most effective were *Diadem* and *The Artist*, two of Mr. Hoyle's flowers. The first of these, *Diadem*, was remarkably telling, being decided and distinct in color, which, added to a good form and habit, and a considerable freedom in producing its flowers, left little to be desired; the color was a deep and bright rosy purple, very decided in the lower petals, the throat clear white, and the upper petals very dark maroon, edged with rosy purple. *The Artist* had a good deal of general resemblance to this, but was more of a rose color, less of a purple. Mr. Hoyle also had an attractive orange red flower called *The Prince*, the upper petals of which were light maroon, and the throat light, shaded with purple. Another, called *Penelope*, had the top petals dark maroon edged with rose, and the lower ones spotted and mottled with maroon. Of Mr. Beck's set *Prince of Wales* and *Princess of Wales* were the most noteworthy, the former being a bright crimson marbled with maroon in the lower, and bright maroon with a broad edge of crimson in the upper petals; the latter marbled with bright maroon on a crimson ground below, and dark maroon above, both being remarkable for their effectiveness. We also noticed *Eurydice*, a beautiful light variety, which received a

high award last year, but is, we believe, not yet let out. Of the hosts of mediocrities and inferiorities in this and other flowers we have no room to speak. We observed examples of the hybrid spotted Mimuluses, to which we have already adverted, both from Mr. Bull and Messrs. E. G. Henderson & Son.

Gossip of the Month.

THIRTY-FIFTH ANNUAL FAIR OF THE AMERICAN INSTITUTE.—The Annual Fair of the Institute,—omitted last year,—will be held in New York next September, commencing on the 2d, and will continue three weeks. The Institute have rented the spacious and commodious building, known as the Academy of Music, corner Fourteenth Street and Irving Place.

The Fair, as heretofore, will be restricted to American productions; it will be general in its character, embracing manufactures of all kinds, new inventions, improvements in agricultural implements, &c.

A Horticultural Exhibition will be held the last week of the Fair, in connection with the General Exhibition. Flowers, fruits, and vegetables, sent for competition for premiums, must be deposited on Wednesday morning, September 16.

Further information respecting the Exhibition may be obtained by addressing John W. Chambers, Secretary of the Managers, at the rooms of the American Institute, Cooper Union Building.

Societies.

BELMONT FARMERS' CLUB.

The Fourth Annual Strawberry Show of the Club took place on Saturday the 27th of June, and was one of the largest and most successful yet held. In order to accommodate the many friends who have been attracted thereto, from the superior quality of the strawberries, the Club held their Show in a large tent, near the usual locality. In this were two tables, nearly or quite one hundred feet long, each well filled with strawberries and decorations of flowers, plants, and bouquets. The lateness of the month does not allow us space or time to notice them at length, but they were tastefully got up, and many very fine specimens were furnished from the gardens of J. G. Cushing, Esq.

The display of strawberries comprised upwards of 70 baskets, varying in size from one to four quarts each, mostly the latter. Thirty-five of these

were Hovey's Seedling, twelve Brighton Pine, and the others Jenny Lind, Triomphe de Gand, Boston Pine, Victoria, Austin, and some others, with a single basket of Wilson's Albany, which only served to show off its dingy appearance more strongly, in comparison with the others.

The prizes were greatly increased this year, by the aid of friends, and they were also open to all cultivators, everywhere. The first prize was a silver cup, value \$30, for the best four quarts of any berry, and \$20 for the second best. The other premiums were also liberal, as will be seen by the report. The Hovey's Seedling of A. Simpson carried off the \$30 cup; and the same kind from J. O. Wellington, took the \$20 cup. The berries were surpassingly fine, though not so large as we have seen them at a previous show, but the color was just right. In fact, such a display of strawberries was never seen before.

The company was very large, and filled the tent during the entire afternoon. Everybody seemed delighted with the Show. At the close the prize berries were sold at auction, for the benefit of the Club. The first prize dish of Hovey's Seedling (silver cup) was sold to C. Copeland, for \$20. The next to J. G. Cushing, for \$10.50. The first prize dish of Hovey's (regular prize) was sold for \$6.50; the next for \$6.50, and the third and fourth for \$5.50 each. The first prize dish of Brighton Pine (4 quarts) sold for \$4, and the second for \$3.50. The prize dish of Triomphe de Gand sold for \$5. We add the prizes as awarded by the Committee, who were W. C. Strong and J. F. C. Hyde.

AWARD OF PRIZES.

For the best four quarts of any variety.—To A. Simpson, for Hovey's Seedling, a silver cup, value \$30.

For the next best, to J. O. Wellington, for Hovey's Seedling, a silver cup, value \$20.

HOVEY'S SEEDLING.—For the best three quarts, to Varnum Frost, \$6.

For the next best, to Thos. C. Morton, \$5.

For the next best, to J. O. Wellington, \$4.

For the next best, to Wm. H. Locke, \$3.

BRIGHTON PINE.—For the best, to C. G. Winn, \$5.

For the next best, to Isaac Cheney, \$4.

For the next best, to Wm. Richardson, \$3.

For the next best, to Chas. Long, \$2.

TRIOMPHE DE GAND.—For the best, to J. G. Cushing, \$5.

No competition for the other premiums for this sort.

ANY VARIETY, other than the above.—For the best, to J. G. Cushing, for Victoria, \$4.

For the next best, to T. Young, Jr., for Cremon's Perpetual, \$3.

For the next best, to J. B. and C. H. Cheney, for Austin, \$2.

BEST COLLECTION, of five varieties.—For the best, to J. O. Wellington, for Boston Pine, Hovey's Seedling, Brighton Pine, Jenny Lind, and one other, \$5.

For the next best, to W. H. Locke, \$4.

Obituary.

DEATH OF DR. DARLINGTON.—The decease of Dr. Darlington has already been noticed in our Agricultural and Horticultural Journals. The last No. of the Gardeners' Monthly contains a full account of his life, and the eminent services he rendered to botanical and horticultural science.

Dr. Darlington was born in Birmingham, Chester County, Pa., on the 28th of April, 1782. His parents were farmers, and William, after receiving a common school education, worked on the farm till he was eighteen years old. He then commenced the study of medicine in Wilmington, Del., and in 1804 received a diploma, with the degree of M. D., from the University of Pennsylvania. He then established himself in practice in his native village, but devoted all his leisure time to the study of the natural sciences, particularly botany, in which he became, subsequently, chiefly distinguished.

In 1814 he commenced to gather materials for the Flora of West Chester County, which, however, he did not complete till 1826, under the modest title of "Flora Cestrica." Subsequently he turned his attention to the improvement of his own place of residence in West Chester. He established an Athenæum, a Cabinet of Science, Halls of Temperance, Horticultural Societies, &c. In 1837 he published his "Flora Cestrica," a large work, of purely local character, describing the plants growing wild in West Chester County, which reached three editions. He enjoyed the confidence and correspondence of the most distinguished men abroad and at home, and Dr. Torrey dedicated to him a native plant, the *Darlingtonia californica*.

Dr. Darlington's constant effort was to render science practical and pleasing—in every sense of the word, popular, and one of his happiest efforts in this way was made in his "Agricultural Botany," a valuable work, published in 1847. Dr. Darlington also published other works, one of which, his "Memoirs of Marshall and Bartram," is a large volume, replete with national interest. His valuable services "will cause his name to be remembered after the last of those who knew him have long past away."

DEATH OF DR. JOHN A. KENNICOTT.—Died, at his residence, "The Grove," Cook County, Ill., Thursday morning, June 4, Dr. John A. Kennicott, aged 63 years.

In the decease of Dr. Kennicott horticultural science loses one of its most ardent friends, and the cultivators of the soil one of their most honored and intelligent colaborers. Fortunate in having a long acquaintance with the Doctor, though too remote to meet him often, he has from time to time contributed to our pages, and often by private correspondence, a letter lying before us, written but a few weeks ago. We feel assured, however, that he was too well known to our readers, and his communica-

tions upon horticultural subjects too familiar to pass over his death without giving some account of his life, and the eminent services he has rendered to agriculture and horticulture generally, and especially to the advancement of both in the great Northwestern section of our country. This we are enabled to do from a notice of his life in the *Prairie Farmer*, of which he was at one time Associate Editor.

Dr. Kennicott was born in Montgomery County, N. Y., about 1800. He was the eldest of fourteen children, and was known in the West, and so called in the family, as "the Old Doctor;" so called, because of the fact, that there were several members of the profession in the family. His father was a pioneer all his life, "with his face ever to the West." He first removed from Rhode Island to Rensselaer County, N. Y., thence to Montgomery, thence to Onondaga, next to Ontario County, and finally to Cook County, Ill. The Doctor's early life was spent on the farm and in a small nursery, with his father, until 1823, when he left the farm and went to Buffalo, N. Y., where he taught school and studied medicine, spending his winters, meantime, at the Medical College at Fairfield, Herkimer Co. While attending College he delivered a course of Botanical Lectures in Buffalo, which were quite successful. After graduating he lectured and wrote for the Buffalo Press, practiced medicine at Welland, Canada, pursuing his botanical studies. In 1828 he left Buffalo, and visited the West and South, and resided at New Orleans some years, till 1836, when he removed to "the Grove" in Illinois. There he practiced medicine, created a private nursery, from which to supply his own wants, and those of his neighbors. And the best monument to his memory are the beautiful evergreens which he introduced and distributed through the Northwest. He was for some time associated with Mr. Wight, in the management of the *Prairie Farmer*.

"But throughout the West and the East, he was better known as a horticulturist, a friend and advocate of agricultural education, and of the recognizance of the interests of the agriculturist by the General and State Governments. He labored with tongue and pen to add to the intelligence, prosperity and dignity of the agriculturist, and to secure the elevation of the profession to its true position among other professions. To this end he identified himself with every movement calculated to bring about such a result. He was an early friend to the establishment of agricultural, horticultural and pomological societies. He was active in the organization of the Illinois State Agricultural Society, was repeatedly one of its Vice-Presidents, and at one time its Corresponding Secretary. And it is only truthful to say that the Society, neither before nor since, has ever had a more active and efficient officer. He was President of the North American Pomological Convention, prior to its union with the Congress of Fruit Growers,—under the title of The American Pomological Congress. At the time when this union was consummated, in Cincinnati, in 1851, Dr. Kennicott was elected Chairman in the preliminary organization, and first Vice-President of the permanent organization. He was also active in the organization of the North-Western Fruit Growers' Association, of which he was its presiding officer one or two terms. He has served the Illinois State

Horticultural Society as its President, and his public labors were nominally closed when he retired from this position, in December, 1861, delivering his valedictory, which he called 'a parting legacy to the Horticulturists and Agriculturists of the West.' He was also connected with and active as a member of the United States Agricultural Society, and did much to redeem it from the disrepute into which it fell. But it received little sympathy or support from him after the fair of 1859, in Chicago, to the success of which he so zealously and laboriously contributed."

C. D. Bragdon, of the Rural New Yorker, who was one of his most intimate friends, thus truly sums up the worthy life of the Doctor:—"He was a faithful and true friend; a pure patriot; a lover of his race, and of everything good and beautiful and true; eminently social and affectionate; hospitable and self-sacrificing to a fault; unimpeachable in his integrity; progressive in all his impulses and acts; implacable in his opposition to wrong, and just in all his relations to men. As a writer, he was original, vigorous, and emphatic. He always wrote as he *felt* and thought; and thinking and feeling strongly, he wrote strongly. His articles always commanded attention. They were so invested with his individuality, it could not be otherwise. And added, there was a poetic element in them that attracted the reader. Dr. Kennicott was a very industrious writer; and some of the best things he ever wrote are lost to the world, because he was his own most critical critic. His private correspondence was enormous; and no friend had cause to complain of inattention. But whether as correspondent or editor, his labors were faithfully directed to elevate and encourage, and benefit the race. And his works will live after him! Peace to his memory!"

Massachusetts Horticultural Society.

Saturday, June 6, 1863.—An adjourned meeting of the Society was held to-day—the President in the chair.

Mr. Wetherell, from the Library Committee, reported that 25 copies of Burr's Field and Garden Vegetables had been purchased, in accordance with the vote of the Society.

Mr. Breck moved that the Society accept the act additional to an act giving the Society permission to hold real estate to the value of \$250,000, as petitioned for at the last legislature. It was unanimously voted to accept the act.

The President read the following letter, addressed to him from H. Hollis Hunnewell, Esq. :—

BOSTON, 1 MAY, 1863.

C. M. Hovey, Esq., President Massachusetts Horticultural Society.

Dear Sir,—Feeling, as you are aware, a very deep interest in the subject of horticulture, in all its various branches, and believing that I can in no way more effectually assist in encouraging a taste in our community for this delightful occupation, so suggestive of good impressions, and conducive

to real enjoyment in life, than by aiding your Society in its means of usefulness, though in a small way, I take pleasure in offering for your acceptance the enclosed bond of \$500, as noted below. The income from this sum I would desire to be applied annually, or at intervals of a few years, at the discretion of your Committee, in premiums and gratuities for the encouragement of the introduction and cultivation of New Evergreen Trees and Shrubs, and particularly new varieties of hardy Rhododendrons.

I am happy in the opportunity here afforded me of assuring you of my most sincere and hearty appreciation of the objects of your Society, and with my best wishes for its continued and increased success, until it shall, in due time, rival, in rank and extended influence, foreign institutions of a like character. I remain, with great regard, truly yours,

H. HOLLIS HUNNEWELL.

Mr. L. Wetherell submitted the following votes, which were unanimously adopted:—

Voted, That the thanks of the Society be tendered to H. Hollis Hunnewell, Esq., for his very liberal donation of a mortgage bond of the Illinois Central Railroad of \$500.

Voted, That the Society accept, with pleasure, this token of a generous interest in its welfare and future usefulness.

Voted, That the donation shall be called the Hunnewell Fund, and that the income be distributed in medals or plate, to promote the objects suggested in Mr. Hunnewell's letter.

Voted, That the President be authorized to transmit a copy of these votes to Mr. Hunnewell, and acknowledge the receipt of his donation.

D. Harris, Dorchester; J. P. Squires, West Cambridge; F. Weld, West Roxbury, and J. F. Whittemore, West Cambridge, were elected members.

Meeting dissolved.

Saturday, June 20.—The prize day for pæonies brought together a very fine collection of this superb flower. The display was much the finest ever made, and shows the appreciation of this too much neglected plant. Messrs. Strong, Wilder, Breck, and Hovey, had many excellent varieties, the latter gentleman exhibiting upwards of 60 kinds. Among these, most of the collection Parmentier, remarkable for their rich and deep colors. The varieties in the stand of Messrs. Hovey, which was full, were Festiva maxima, papaveriflora, Etienne Dennis, Francis Ortegat, Arsene Murat, J. Decaisne, Dr. Bretonneau, Dr. Caillot, Elegans Superbissima, and Triumph de Paris. Mr. Breck, who was second, had Goldii, Pottsii, Reine Francais, papaveriflora, Festiva, Duchess de Nemours, Dr. Bretonneau, Lilacina grandiflora, Beauty Francais, and Chas. Gosslin.

The show of cut flowers was very fine. Superb Hybrid Perpetual roses were contributed by E. Stone, and the collections of Messrs. Strong and Parkman contained many beautiful varieties.

AWARD OF PREMIUMS.

PÆONIES.—For the best ten flowers, to Messrs. Hovey & Co., \$5.

For the next best, to J. Breck, \$4.

For the next best, to M. P. Wilder, \$3.

Saturday, June 27.—ROSE SHOW: The Exhibition of Roses for Premium took place to day, and was one of the best displays ever made, especially of Hybrid Perpetuals. The season has been dry, but the roses had not suffered, and they were just in the right condition. The principal exhibitors of June roses were Messrs. Hovey & Co., F. Parkman, Breck & Son, and J. Nugent. Of Hybrid Perpetuals, Messrs. W. C. Strong, F. Parkman, J. C. Chaffin, Hovey & Co., E. Stone, and J. Breck & Son. Hovey & Co. had a fine collection of tender roses, not for competition, and J. Nugent a fine display of the same.

The collection of Hovey & Co., which obtained the first prize, contained the following kinds: *La Reine, Lælia, Gen. Jacqueminot, Louis Kostchouby, Auguste Mie, Caroline de Sansal, Burke, Duchess d'Orleans, Geant de Betailles, Lord Raglan, Portland Blanc, Leon des Combats, Lady Frances Waldegrove, Comte Derby, Miret, Baron Prevost, Jules Margottin, Duchesse de Cambaceres, Prince Albert, and Duchess of Sutherland.*

Mr. J. C. Chaffin had a fine stand of superb flowers, embracing the following kinds, which was awarded the second prize:—

Lord Raglan, Leon des Combats, Triumphe de l'Exposition, Mrs. Elliot, Geant de Betailles, General Jacqueminot, Jules Margottin, Pie IX., Mad. Vidot, Arthur de Sansal, Portland Blanc, L'Elegante, Mad. Boll (very fine,) La Reine, Ville de St. Dennis, Madame Masson, Duchesse de Cambaceres, Prince Leon Kotschouby, Maria Portemer, Panache d'Orleans.

The June Roses, though fewer in number, were very superior, and contained several new varieties. In the collection of Hovey & Co. were *La Neige, L'Albane, Etoile de Malmaison, and Celeste Blanche*, all new white roses. Mr. Parkman had a fine bloom of *Ohl*, a superb deep colored old rose, worthy a place in every collection. The prize stand of Hovey & Co. contained the following 20 sorts:—*Vandael, Mad. Hardy, Paul Perras, Fanny Parissot, Cœillet Parfait, Shakspeare, Mad. Legras, L'Albane, Margaret Mary, Boula de Nanteuil, La Ville de Londres, Joasme, Laquier (new), Elize Vioart, Desprintes, George IV., Etoile de Malmaison, Adele Becar, L'Obscurite, and Coupe d'Hebe.*

Horticultural Operations

FOR JULY.

FRUIT DEPARTMENT.

THE dry weather of June has been almost unprecedented, and vegetation begins to suffer considerably. Strawberries have been severely injured on light lands, and other small fruits received a check in their growth.

GRAPE VINES, in the early forced houses, will now have fully matured their wood, and may be pruned this month, or early next. Vines in the common graperies will now be swelling their fruit rapidly, and will begin to color by the last of the month. Look over the bunches, occasionally, and

see that there are no mealy bugs concealed; and if so, dislodge them by means of a small brush. This pest should never be allowed to get into the grapery; but when it does, nothing but constant attention will ensure their eradication. Damp down the house, morning, noon, and night, and air liberally, night and day, as the grapes begin to ripen. Stop all laterals, as they require it, and if dry weather continues give the border a slight watering. Similar treatment should be given to the cold house, the only difference being that the fruit will not be quite so far advanced, and the house should be closed earlier at night until next month, in order to maintain a warm temperature. Vines in the open air should be thinned of all superfluous wood, laying in the strong shoots for next year's crop; or if trained on the spur system the laterals should be cut in to within two or three buds of the grapes; mulch and water if dry weather and a good crop.

ORCHARD-HOUSE TREES, removed to the open air, will soon be ripening their fruit, and will need less water. Syringe occasionally, to keep down the red spider. Young trees should be stopped in order to make them compact and bushy.

STRAWBERRY BEDS, now done fruiting, should be put in order for the young runners, by digging in alternate strips, manuring well first. On this ground the plants should be laid in as they grow. New beds, made in April or May, should be kept clear of weeds, and the runners laid in. Prepare ground now, if new plantations are to be made in August.

FRUIT TREES should yet be summer pruned, stopping the laterals to two or three joints. Thin out the fruit now, taking off the most inferior specimens first, and afterwards such as would be likely to exhaust the tree, or diminish the size of the specimens.

STRAWBERRIES, for forcing, should now be obtained by laying the runners into small pots, plunged in the bed.

FLOWER DEPARTMENT.

Now that the plants usually put out of doors at this season, are all well arranged, their places should be immediately filled with summer blooming sorts. Those which should have been brought along in small pots may now be shifted into a larger size, in which they will flower freely. They should comprise gloxinias, achimenes, Japan lilies, and fuchsias, with the variegated begonias, caladiums, choice ferns, coleus, and other foliaged plants; well arranged they produce a superb show all the summer.

The winter flowering stock should receive every attention; shifting such as require it, and top dressing or preparing others, so as to obtain a vigorous growth, upon which the flowering depends.

AZALEAS, now making their growth, should be encouraged by frequent syringing, and closing up the house rather early so as to maintain a genial heat. Continue to repot such as need it, and stop rampant growths, so as to obtain compact specimens. Plants for early flowering, which have completed their growth, may now be placed out doors in a half-shady place.

CINERARIAS will require attention. As soon as the plants have grown sufficiently, divide the roots, and pot off in light rich soil, keeping the young plants in a cool frame, shaded from the hot sun. Sow seeds now for next winter's blooming.

PELARGONIUMS will soon need to be cut down and put in order for next winter's bloom. The last of the month will do for such as are wanted to bloom in April, and the others may continue to bloom awhile longer. Let the plants be dried off a little so as to well ripen the wood: head in to two eyes of the old wood, and give very little water till the old plants begin to break. Put in the cuttings, placing them in a cool frame.

CHRYSANTHEMUMS should now be encouraged as much as possible. Water freely, night and morning, in dry weather, occasionally using liquid manure. Nip off the tips of vigorous shoots, so as to keep a bushy growth.

CHINESE PRIMROSES should have the protection of a frame, where they can be shaded from the noonday sun. Sow seeds now for obtaining young plants.

HEATHS, done flowering, may be cleared of their decaying blossoms, and headed in so as to make handsome shaped plants. Shade from the noonday sun.

FUCHSIAS may be repotted again, if growing vigorously; give a good rich soil, and water abundantly.

VERBENAS, for winter blooming, should now be shifted into 5-inch pots; plunge in the open ground, and keep all flowers pinched off.

CACTUS, done blooming, may be repotted.

POINSETTIAS should now be repotted.

ROSES, for winter blooming, should now be repotted, and plunged in the open ground.

CALLAS, dried off last month, should be shaken out of the old soil, and repotted the last of the month.

MIGNONETTE AND SWEET ALYSSUM SEEDS should be planted soon.

CALCEOLARIA SEEDS may be planted.

COLLECT SOILS, in readiness for use for the autumn and winter potting.

FLOWER GARDEN AND SHRUBBERY.

The dry weather has much interfered with the appearance of the lawn, which now looks rather yellow, from the long absence of moisture. As soon as rain falls give a good rolling, and clean, rake, and roll the walks.

TULIPS AND OTHER SPRING BULBS should be taken up immediately.

DAHLIAS should be mulched, and have a good watering in dry weather. Tie up the plants to strong stakes.

CARNATIONS AND PICOTEES should be layered as soon as done blooming.

ROSES should be layered this month.

SEEDS OF PERENNIAL PLANTS may now be sown.

HOLLYHOCK SEEDS may now be planted.

Attend to the staking and tying up all tall plants, and cut away old flower stems and decayed foliage.

THE VEGETABLE GARDEN.

THE recent publication of Mr. Burr's excellent work on the Field and Garden Vegetables of America, reminds us of a duty, long postponed, of saying a few words upon the vegetable garden. We say long postponed, for we intended to do this a year or two ago, when a visit to the new vegetable garden of the late J. P. Cushing, at Belmont, reminded us of the importance of a well arranged and properly made kitchen-garden to every country residence.

It is somewhat surprising to see how little attention is given to the cultivation of superior vegetables. While in Great Britain, in making a new place, the formation of the fruit and kitchen-garden is one of the first and most important matters next to the establishing the site of the house, it is here a matter of no concern whatever; a little pains is taken to make a pear orchard, but the vegetables can be grown anywhere, in the most out of the way place oftentimes, they being of comparatively little consideration. A row of beets, a few hills of corn, a few vines, &c., can be placed between the trees, a rich, open and excellent piece of ground being altogether too valuable to be occupied with such things. The result is that, with few exceptions, the whole crop is inferior, and, in reality, hardly worth the trouble of planting.

It would appear almost superfluous to attempt to show the great difference between vegetables raised by skilful gardeners, in well-prepared soils, and the ordinary products of the generality of gardens. In fact all root crops, such as beets, carrots, parsnips, &c., are such as could hardly be given away in the market; they are short, fibrous, and deficient of that richness which characterizes the smooth and rapidly grown roots of the same kinds, raised by market gardeners. The lettuces run up to seed before they are half grown. The radishes and turnips are wormy, and the celery is tough and leathery. Even peas and beans have not the richness, to say nothing about the crop, that a well developed and vigorous

growth is sure to impart to each. While we devote all our energies to the culture of the fruit garden, the English cultivators deem the kitchen-garden a matter of the very first consideration. In all the English works on gardening, from the earliest writers of any note, to the latest, the treatment of the kitchen-garden is the main object of every author. Mr. Thompson, in his recent and most valuable work, the *Gardener's Assistant*, devotes sixty pages to the formation of the fruit and kitchen-garden, treating of it under the heads of (1) Situation; (2) Soil; (3) Form, and (4) Extent. These again are divided in sections, such as levelling, draining, making borders, walks, &c. We were surprised, during our visit to England, to see the regularity, order, neatness, and we might almost say, beauty of the kitchen-gardens, walled in, and laid out into squares; the walls covered with fruit trees; the borders lined with espaliers, and the compartments all filled with the smaller fruits and vegetables, planted in rows, and kept as clean as a flower garden. We do not expect, of course, to see such extensive gardens in this country, as there is no need of the great supply required for such princely places as Dalkeith and Chatsworth; but we do wish to see them laid out as neatly, whatever the size may be—and arranged as orderly—believing the result will justify the outlay and trouble, wherever a liberal supply of superior vegetables is wanted. Nothing would tend more to increase the desire for vegetables, than the production of those of excellent quality; for, strange as it may appear, the cauliflower, chicory, Brussels sprouts, egg plants, and some others, are almost entirely unknown to many people remote from our great markets.

The formation of the kitchen-garden should, therefore, we think, be an important consideration with the possessor of every country residence. If a good supply of vegetables is not needed, the ground may be devoted to other purposes; but if it is, then the garden should be made in the most thorough manner. If the house is to be built, and the grounds laid out, select a larger or smaller spot, according to the wants of the proprietor, for the kitchen-garden, separated from the other departments, by a hedge, or belt of evergreens; and whatever its form, whether a square or parallelogram (which are

the best) or other shape, let it be so arranged as to admit of easy access, that manure—upon the free use of which success depends—may be close at hand : let it also be laid on in regular form, that rotations of crops may be made with facility, and trenching done with the least loss of labor or crops. By all means, avoid the common error, except when necessity compels it, in small grounds, of having the flower, fruit and kitchen-garden combined in one. Where this is done it is impossible to grow superior vegetables, and keep up the neat and orderly appearance, which every good garden should maintain. No standard fruit trees should be allowed in the kitchen-garden, as their shade is injurious, and the extension of their roots speedily exhausts the soil, and deprives it of the moisture which vegetables so much need.

It is not, of course, our object to lay down all the directions for the formation of the kitchen-garden : that would require more space than we have to devote to the subject now. Our object is rather to show the importance of more care and skill in the formation and management of kitchen-gardens, and to point out some of the errors which are to be avoided by those who are about making new places, as well as to aid those who desire to make the most of such grounds as they already possess. Leaving, therefore, the details of forming kitchen-gardens to another opportunity, or referring the reader to reliable authors for such information, we close our article with some general remarks upon the production of superior vegetables, and the importance of selecting the best varieties.

Two things are indispensable in the growth of good vegetables, viz., a naturally deep, well drained, and good soil, and an abundance of manure ; whatever the situation, or aspect may be, or however so much care may be given, without these, success will be in proportion as they are deficient. Trenching is the great renewer of vegetable gardens ; with the English market gardeners the ground is trenched often, generally after every crop ; this brings the fresh soil to the surface, where the frosts, and rains, and dews invigorate, and prepare it for the succeeding one. But it is important that the soil should be naturally deep, or made so, for trenching on a shallow loam, where the subsoil is brought to the surface,

often results in injury to the crop, at least until it has had time to recover by exposure, and the aid of manures. A soil less than eighteen inches deep is hardly fit for a good vegetable garden. If deeper so much the better, and if the subsoil is wet, it should by all means be thoroughly drained.

As regards manures, the best for general purposes is the compost heap, made from the stable, with the admixture of leaves and vegetable rubbish, though good substantial manure should form the component part. Guano, superphosphate of lime, poudrette, and other fertilizers, may be made use of occasionally, but the manure heap must still be the grand resort. This should either be applied in the ordinary way at the time of planting, or trenched into the soil, according to the nature of the crop. The great object in the production of vegetables is to secure a quick and vigorous growth; any severe check will materially injure the crop. Hence, a good soil, that will retain due moisture, and a rich one, that will supply immediate nourishment, are indispensable to success. Especially in our climate is this all-important, where severe droughts occur, which are often fatal to a whole crop. For the same reason, a warm soil, easily worked so as to plant early, is a great safeguard against the dry weather of June and July. These are essential considerations in the formation of the vegetable garden.

A good soil, and an abundant supply of manure being secured, there is yet another important matter to be remembered; this is the selection of the best varieties of vegetables for cultivation. Not many years ago, this was of less consequence; the kinds were then few in number, and less varied in quality; but the skill of hybridizers, and observing eyes of practical men have made "selections" which have almost entirely changed the character of some vegetables; thus, twenty years ago, we had only the old crookneck and Canada squashes; now we have the autumnal marrow and Hubbard; then, the main crop of peas was the marrowfat, now, we have the delicious Champion of England to take its place. Then, we had only the old scollop shaped hollow tomato; now, the varied sorts of round, smooth, Lester's, and French tree, all large, solid, handsome, and excellent. Thus we

might enumerate many other vegetables, which have been greatly improved, and rendered much superior to what we formerly had : these are enough, however, to show the great importance of selecting only the very best ; the labor of cultivating the inferior being quite as great as those of superior quality.

It has been our object, for nearly thirty years, to record all the accessions of new and superior vegetables to our gardens. These notices will be found scattered through our entire series of volumes, since 1835. Few, if any, of much note, have escaped our attention, or remained unknown to readers ; and while some have proved of no value, others have been great acquisitions. Such as may have escaped our notice will be found enumerated in Mr. Burr's work, with all the others, both old and new, and their comparative merits impartially discussed. If the products of the vegetable garden do not include the best variety, it will not be for the want of information.

RETROSPECTIVE GLANCES INTO THE LONDON HORTICULTURAL TRANSACTIONS.

ON THE DUTCH MODE OF TREATING HYACINTHS. BY REV. WILLIAM HERBERT. JULY, 1820.

THE writer following the rules laid down in a work by St. Simon, entitled *Des Jacintes*, published at Amsterdam in 1768, produced for several years successively, at his villa in Surrey, hyacinth flowers fully equal if not superior, to those obtained from the best Dutch bulbs.

The compost used at Haarlem is rotted cow-dung, rotted leaves and fine sand. In making this compost, the Dutch gardeners prefer the softer leaves of elm, lime, and birch, and reject those of oak, chestnut and such coriaceous leaves as do not readily become rotten. The cowdung which they use is also of a peculiar quality, being collected in the winter, when the cattle are stall-fed upon dry food, without any mixture of straw or other litter. The sand is procured in the neighbor-

hood of Haarlem, where the soil is a deposit of sea-sand upon a compact layer of hard undecayed timber, the remains of an ancient forest, which has been covered by the sea. The purest sand is obtained by digging to some depth.

The leaves used by the Dutch are laid in a very large heap, in a situation not much exposed to the sun, and not liable to stagnation of water, which is carefully drained from them. When they are decayed and fit for use, the compost is thus made: first they place a layer of sand, then one of dung, then one of rotten leaves, each being eight or ten inches thick. These layers are repeated, till the heap is six or seven feet high, a layer of dung being uppermost, sprinkled over with a little sand, to prevent the too powerful action of the sun upon it. After the heap has lain thus for six months or more, it is mixed and thrown up afresh, in which state it remains some weeks to settle, before it is carried into the flower beds. This compost retains its qualities six or seven years; but the Dutch avoid setting hyacinths in it two years successively. In alternate years they plant tulips, jonquils, narcissus, crocus, lilies, &c. in the same beds; nor do they venture to set hyacinths in the compost the first season, when the fresh manure might be injurious to them. The choice bulbs are taken up every year, and the soil among the fibres is then carefully brought up to the surface. The beds should be deep enough to entirely prevent the fibres coming nearly in contact with the natural soil.

The beds should be made about three feet deep with the compost, consisting of about one sixth of rotten leaves or tan, two sixths of pure sand, and three sixths of rotted cow-dung. The compost should not be trodden down hard; but the bed being opened, the bulbs may be ranged, and then carefully covered from three to five inches deep, but they should not be dibbled or pressed into the compost. The later sorts may be placed nearer the surface, to make them flower earlier. If the situation is wet in winter, the beds should be sufficiently raised, to avoid any excess of moisture; but not too much elevated. The Dutch cover their beds with dung or tan in winter which they frequently put on or take off, according to the state of the weather. They permit the frost to penetrate

to a distance of an inch from the bulbs ; if it descends deeper, the blossom, as they think, will be spoiled, and if it is under the roots they will be destroyed. Mr. Herbert, on the contrary, has never found frost injurious to the bulb. The compost will require no additional manure, till the expiration of about six years, when it should be mixed with fresh sand and dung, prepared as above described.

When the leaves of the hyacinths begin to wither, the bulbs should, if possible, be pulled out of the bed by the hand, to avoid the danger of cutting them with the spade. The leaves should be cut off, and each bulb laid on its side, covering it lightly with the compost, about two inches thick. In this state they should be left about a month, and then taken up in dry weather, and exposed to the open air for some hours, but not to a powerful sun, which is injurious to them. They should, after this, be carefully examined, and all the decayed parts removed by a knife, though it may be necessary to cut deep. If the diseased part be not entirely cut out, the bulb will perish and communicate disease also to those in contact with it.

The bulbs should be placed in an airy store room, about the end of June. They must not be in contact with each other, and should be frequently examined, and the decayed ones removed. If few in number, a moveable stage of very open lattice work should be used, and set in any dry, cool and airy room. Before they are planted in the autumn, they ought to be again carefully examined, and all decayed parts and withered coats removed.

THE MAIN POINTS OF VINE CULTIVATION. BY ROBERT ERRINGTON.
NOVEMBER, 1845.

These remarks were communicated in compliance with the desire of the Society, who wanted to learn the most important points of the writer's experience. Mr. Errington thinks that a large proportion of the grapes that do not color well, are planted in borders not adapted to meet the great extremes of moisture to which the climate is subject. It is certain, also, that over-cropping alone is one cause of the coloring process being incomplete, in a great number of cases. It is quite

clear, from numberless instances, that porous materials for the mere transmission of moisture and atmospheric influences, may be used to the extent of nearly one half the volume of compost with propriety.

Whatever depth of border may be adopted, the substratum should be so complete as to bid defiance to excess of moisture, both from springs beneath, and atmospheric moisture above. This being secured, the next point is compost. Chopped turf of a loamy character, and inclined to what is termed sandy loam, is nearly complete in itself for this purpose, providing the previous points be efficiently secured. But as soils, as well as subsoils, differ so much in mechanical texture, it is perhaps wise, on the whole, to use a mixture, which, in point of texture, may bid defiance to all weathers.

Two thirds of the loam above described, with the other third composed of equal parts of charred brush wood, old plaster, and what is termed by agriculturists "half-inch bone" (boiled bone) will be found nearly all that can be desired in border making. The loamy turf should be very free from old rest land; the older the ley the better; if not of considerable age, it is preferable from an old lane or road-side. It should merely be quartered by the spade, and should by no means be either cut or handled in any way, when wet. Dryness is as indispensable a point in handling the material for a vine border, as for harvesting.

The loamy turf should be thrown in alternate layers with the other portion of the materials, which should be well blended together, and close at hand. Some raw stable manure, chiefly droppings, should be strewed in thin and regular layers, through the whole mass. Before filling the above compost, which ought to be two feet in depth, a layer of half-charred brushwood should be placed over the drainage and substratum. This layer should be nearly a foot in depth.

Such a border would defy all weathers, and would be found after several years, on a stamp of the foot, to have preserved its elasticity, in a very considerable degree, provided that mortal enemy to texture *the spade* be kept from it. It would only be necessary to cover the roots occasionally with a

slight dressing of raw manure, the moment the vines had cast their leaves.

Some cultivators think that a healthy vine will carry all the fruit it may show ; but if this be allowed, the berries will be small and deficient in color and flavor ; for the two latter points always accompany each other. An over crop of fruit likewise lessens the vital energies of the vine. It will generally be found, after all the complaints about large grapes, that the latter, when thoroughly colored, are decidedly richer than the undersized ones.

It may be asked what is the true medium to be observed ? As a general rule, the writer thinks that spurred vines, confined to the rafter, and established on the principle of border making before detailed will assuredly under good management, produce from fifteen to twenty pounds weight each, every year, for many years. Vines spread over the whole house will yield a third more. It is, however, a better plan, where very superior fruit is the object, to keep below this mark. The leading shoot, if there be one, is a pretty good criterion of the energies of the vine. This, if the vine is honestly cropped, should always be disposed, and also allowed, if possible, to ramble freely.

One point, in connection with good grape growing, is an elevated border. One half of the cubical contents of a vine border ought to be above the ground level of the front walk. The writer considers it a good omen in vine culture, to ascend into a vinery by several steps. Another and very common error, is the mode of managing young vines, for the first two years in newly planted vineries. They are disbudded and trimmed as sparsely as if the object was to carry heavy crops, and to obtain plump eyes. Now the primary object of good cultivation, is to obtain a border well filled with roots. The best way to accomplish this is to allow the top to run riot entirely for the first year, and nearly so in the second ; for without abundance of leaf, there cannot be abundance of root. In the second year, however, the laterals should be stripped entirely away, in a progressive manner, from as much of the main stem as it is intended to retain at the winter's pruning, in order to admit light to the principal

leaves, on the agency of which, the success of the first year's fruit depends.

He thinks little need be said about the ripening of the wood. Too much stress, however, cannot be laid on this point, and the neglect of it has caused many failures. He is of opinion that what is termed "close stopping" is frequently carried too far. A main leader should in all cases be allowed a good deal of liberty; this being the very thing that produces a fresh volume of root to invigorate the system of the plant for ensuing seasons.

POMOLOGICAL GOSSIP.

STRAWBERRIES IN WESTERN NEW YORK.—In another page we copy a portion of the Report of the Meeting of the Fruit Growers of Western New York.

We are certainly much surprised at the opinions expressed at the meeting in regard to strawberries. Mr. Barry and Mr. Langworthy recommended the Early Scarlet and Longworth's Prolific. Dr. Sylvester, Burr's New Pine, and Mr. Downing, Longworth's Prolific. Mr. C. M. Hooker had discarded everything but Early Scarlet and Wilson. Certainly, strawberry culture is falling off wonderfully in and around Rochester. We are surprised, too, at the remark of Mr. Barry, that "Wilson seemed to be the most profitable berry, for it is large, and people would pay twice as much" for it as for better, though smaller varieties. This may be so in Rochester, but certainly not in a neighboring city, for Mr. Todd says that in Auburn, where Wilson and Triomphe de Gand are selling for ten cents, the Great Russell's Prolific sells for twenty cents a quart. We fear our Rochester friends are as variable in their opinion of strawberries as they are of grapes. We refer our readers to the report of the meeting.

RUSSELL'S GREAT PROLIFIC STRAWBERRY.—This new variety, introduced to notice last year, is stated to have been raised in 1856, by Mr. Russell of Seneca Falls, N. Y., from McAvoy's Superior and Longworth's Prolific. Whether the fertiliza-

tion was carefully made, or that the kinds merely grew together, is not known; probably the latter. The berries were described by Mr. Clapp of Auburn, N. Y., who offered the plants for sale, as being "4 $\frac{3}{8}$ inches in circumference, color bright red, flavor very good, flesh rather firm, juicy and rich; appears to be very productive, and promises to be valuable. It is not only a pistillate but staminate."

The latter remark rather puzzled us; how a plant could be both pistillate and staminate we did not understand, and we inferred Mr. Clapp did not perhaps know himself.

It was exhibited at Rochester, and some of the cultivators thought it would prove valuable; but the editor of the *Country Gentleman* and his correspondents, tell so much larger a story than anybody else, we fear they will bring discredit on a perhaps meritorious fruit. Mr. Thomas says a plant was exhibited at Rochester, which had on it "fully two quarts of ripe and ripening berries;" and Mr. S. Edwards Todd says, in the same paper, it is "one hundred per cent. more productive than the Wilson:" as the Wilson is said to produce 300 to 500 bushels to the acre, the Russell's Prolific will yield 600 to 1000. We hope it may be true. We shall give it a trial, and report.

NEW STRAWBERRIES.—At a late show in New York, at the Agriculturist office, some new varieties were exhibited:—Among them one raised by Seth Boyden of Newark, N. J. It is said to be a product of Peabody's Seedling with the Green Prolific, the latter produced from Kitley's Goliah and Hovey's Seedling. Its form is nearly conical, somewhat necked; deep scarlet color, extending to the core; solid, and of pleasant pine flavor. The size is enormous; the average berries exceeding anything ever before seen in the strawberry line. It will be described and figured hereafter.

STRAWBERRY TALK IN NEW YORK.—A Fruit Growers Meeting was held at the office of the Agriculturist, June 5th. Rev. Mr. Knox was present, and gave his opinion. He has come to the conclusion that the Fillmore has been overlooked, and is, next to Triomphe de Gand, the best berry. It gives a greater crop than the Wilson. Brighton Pine, with him, was one of the best berries, Scott's Seedling very good; some

parties preferred it to all others. W. S. Carpenter objected to the Fillmore, on account of its being staminate. He was trying Cutler's Seedling. Iowa and Downer too sour. Empress Eugenie was one of the best. Dr. Ward said Hovey's Seedling was one of the best in the vicinity of Newark, N. J.; and that the Brighton was not prolific with him, and had rooted it out. Mr. Knox said (very truly) that his views about varieties were *constantly changing*. He considers a crop of strawberry plants equal in value to one of clover to plough under, when making a new plantation. Dr. Ward stated that Mr. Winans had tried every variety known in this vicinity, at Newark, and had found the Boston Pine and Hovey's Seedling the most profitable sorts. To this remark Mr. Knox plainly told the New Yorkers they did not know much about the culture of the strawberry, that is, to use his own words, "the best culture had not been reached in this vicinity." He was anxious to know "if they had the best kinds for this locality." The cultivators of the great metropolis must feel highly complimented with Mr. Knox's remarks.

LA CONSTANTE STRAWBERRY.—A writer in the Gardeners' Chronicle gives the following account of this magnificent variety, which is fully borne out by our own experience with it:—Too much can hardly be said in favor of this comparatively new strawberry. I have four rows of it across one of the quarters of the garden, and the crop on them is something incredible. The color is bright vermilion, the fruit is large and regularly formed, and the flavor is excellent. This variety I find bears carriage better than any other sort with which I am acquainted, and instead of the runners creeping along the ground, like those of other kinds, they grow straight up among the leaves, forming supports almost sufficiently strong to carry the net with which they are covered."

We can confirm every word of this. It is an enormous bearer, and has the great merit of being a little later than the Hovey's Seedling. As we write this (July 20) there is very good picking on our vines, and but for the dry weather they would be full.

DESCRIPTIONS OF SELECT VARIETIES OF PEARS.

BY THE EDITOR.

IN continuation of our series of articles describing all the best pears, we now present an account of three. We had expected to figure quite a number of new varieties which fruited in our collection last year; but in consequence of their having been produced on young trees, and were not fully grown specimens, or from want of attention in keeping them, they did not ripen up well, and we could not place them as yet, from our own knowledge, in our select list. We doubt not some of them will be very fine, but we must await the trial of further specimens before we can confidently recommend them. Some of the trees are fruiting again this year, and we trust we may soon make known their merits.

225. BEURRE' SIX. *Album de Pomologie*, Vol. III., p. 53.

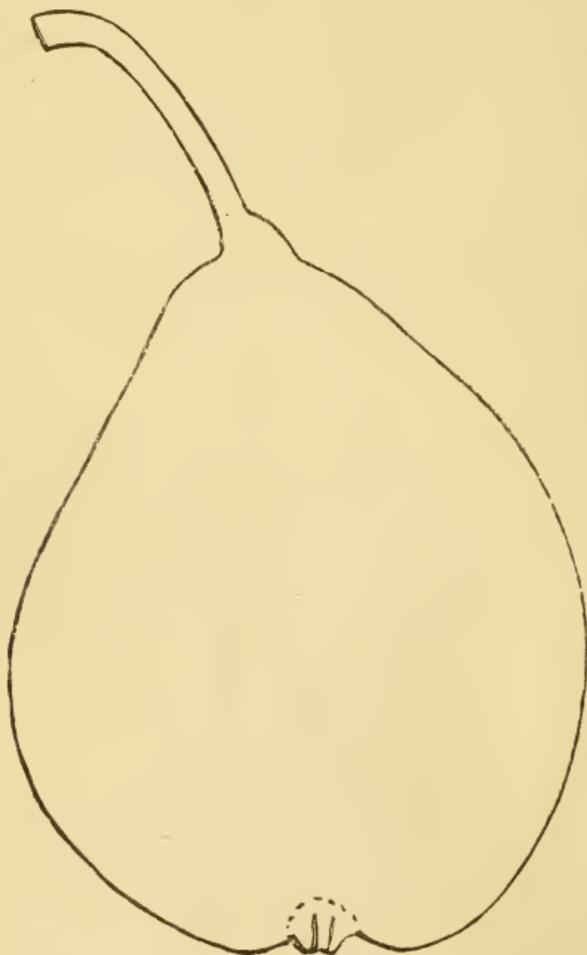
The Beurré Six (FIG. 14) is a large and fine pear, which fruited for the first time in our collection last year.

In the *Album de Pomologie*, above quoted, the Beurré Six is described as an "exquisite fruit," commencing to ripen in November, and keeping until the end of December; this corresponds with our own experience, showing it to be an early winter variety, maturing at a time when there is yet but a limited number of excellent pears.

This variety originated in Belgium, in the environs of Courtray, and was named after the cultivator, who raised it from seed. It was sent to M. Bivort by M. Reinaert Beenaert, a distinguished pomologist of Courtray, and pronounced a superb fruit.

Our trees are yet too young to decide upon its general characteristics. M. Bivort pronounces the tree vigorous and productive, forming naturally a fine pyramid. His trees were upon the pear stock, and he could not state whether it would succeed on the quince. Our own trees are upon the pear stock, and we are inclined to think it will not succeed well on the quince, though we have not tried it upon that stock.

Size, large, about four inches long, and three inches in diameter: Form, pyramidal, largest about the middle, rounding off at the crown, and tapering to the stem: Skin, slightly rough, deep green, becoming yellowish when mature, with some slight traces of russet: Stem, long, about one and a quarter inches in length, rather slender, thick at the base, and attached

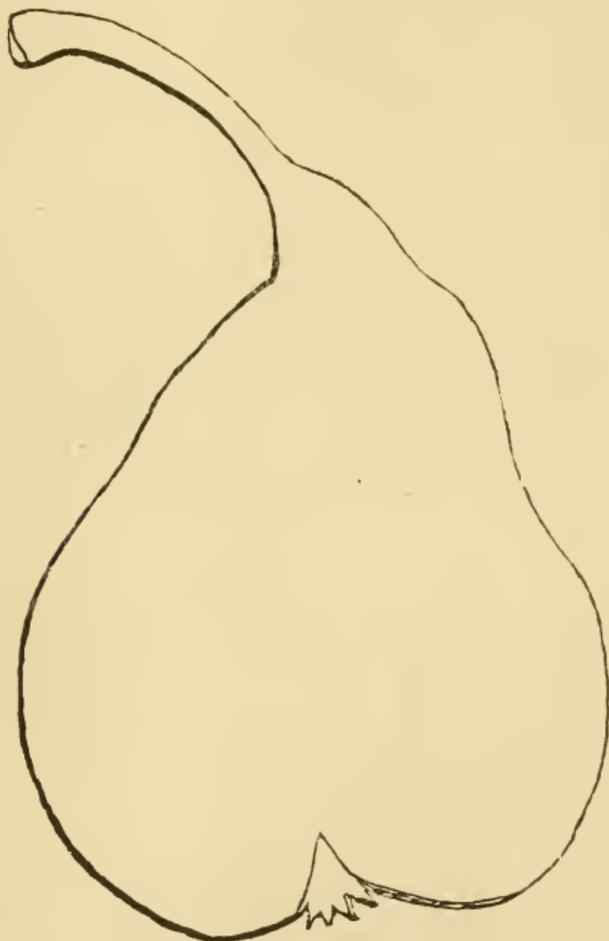


14. BEURRE SIX.

without any cavity: Eye, rather large, open, and moderately sunk in a small, rather contracted basin; segments of the calyx broad, round, stiff, projecting: Flesh, greenish white, fine, melting and juicy, sweet and good: Core, medium size: Seeds, medium size, sharply pointed, brown. Ripe in November and December.

226. BEURRE' BURNICQ. *Album de Pomologie*, Vol. III., pl. 3.

The Beurré Burnicq (FIG. 15) is another of the many seedlings raised by the late Major Esperin, who seems to have been very fortunate in the production of good pears, as a reference to the long list described in our Magazine will show.



15. BEURRE BURNICQ.

This pear first fruited with Major Esperin in 1846, and was named in honor of M. Burnicq, curé of Lannes. It first fruited in our collection two or three years ago, but we thought it then only a fair pear. Last year the crop was large, and many of the specimens very fine, and it proved to be a delicious fruit, keeping for a long time, and in eating

nearly all October and November. It is of good size, not large, but it has the beautiful cinnamon russet skin, so characteristic of many of our best pears. In this respect it approaches both in color and form, the d'Albret.

The tree is a very vigorous grower, spreading and irregular in its habit, and produces abundantly. It is a very fine acquisition.

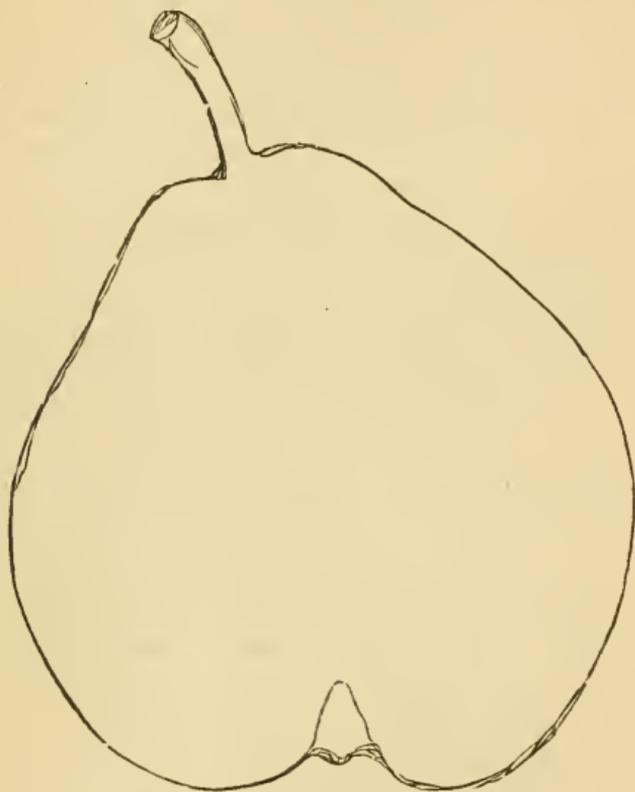
Size, medium, about three and a quarter inches long, and two and three quarters in diameter: Form, pyramidal, broad at the crown, contracted near the middle, and tapering to the stem, uneven in its outline and surface: Skin, rough, dull green, nearly or quite covered with dull cinnamon russet, showing in patches the green ground: Stem, long, about one and a half inches in length, moderately stout, and obliquely attached by a fleshy junction, which appears a continuation of the fruit: Eye, small, open, and but slightly depressed, in a small, shallow basin; segments of the calyx, narrow, short: Flesh, yellowish white, little coarse, melting, juicy, vinous, rich, and pleasantly perfumed: Core, rather large: Seeds, medium size, dark. Ripe in November.

227. HOMEWOOD.

Some three or four years ago, W. C. Wilson, Esq., of Baltimore, an amateur pomologist, presented us with specimens of a new pear which originated in that city, and, if we recollect aright, upon, or near his grounds. He had in his collection all the best pears, but he thought the Homewood (FIG. 16) quite equal, if not superior to any that he had fruited, and he kindly offered to supply us with scions. Availing ourselves of his liberality, we grafted one or two old trees with it, and these came into bearing last year, producing several excellent specimens, which ripened up well, and justified the encomiums bestowed upon it by Mr. Wilson.

In general quality it is similar to the *Passé Colmar*, being very sugary, and high flavored. The tree appears to be of vigorous growth, rather straggling in its habit, and bears abundantly, the specimens smooth, and ripening up finely. It ripens at a good season, and keeps well.

Size, large, about three inches broad, and three deep: Form, obovate, largest about the middle, rounding off to the eye, and narrowing little to the stem: Skin, fair, slightly rough, dull yellow at maturity, more or less traced and obscured with russet, bronzed with red on the sunny side, and somewhat mottled with green and black spots: Stem, medium length, about three quarters of an inch long, rather



16. HOMEWOOD.

slender, slightly curved, and obliquely inserted, with scarcely any cavity: Eye, small, closed, and rather deeply sunk, in a small furrowed basin; segments of the calyx small: Flesh, yellowish white, little coarse, half melting, with a saccharine, slightly vinous, and aromatic juice: Core, rather large: Seeds, large, rounded, plump, light brown. Ripe in Nov.

ARBORICULTURAL NOTICES.

ABIES ALBERTIANA.—Under this name Mr. A. Murray describes, in the Proceedings of the Royal Horticultural Society, a new hemlock spruce; this account is published in the Gardeners' Chronicle, accompanied with an engraving of the tree, taken from a specimen twelve years old, growing in Perthshire, Scotland. As everything relating to a hardy tree, in any way similar to a hemlock, will be highly interesting, we copy the substance of Mr. Murray's paper, at the same time believing that it is little if anything more than our well known hemlock, the engraving being an exact representation of a fine specimen. It has been confounded with a species called *A. Mertensiana* of *Bongard*, which is different:—

“In 1851,” he writes, “seeds were received from Jeffrey, while on his Oregon expedition, which have produced a most beautiful and elegant Hemlock Spruce. Subsequent importations of seeds of the same tree have taken place from Oregon and British Columbia, and from these, young trees are now being gradually distributed over Britain. Jeffrey sent home his seeds and specimens under the name of *Abies taxifolia*. This was at once seen to be a misnomer, but in the absence of other denomination or description, it was usually spoken of as Jeffrey's *Abies taxifolia*, with a sort of reservation that this was a wrong name. Mr. Gordon, however, in his ‘Pinetum,’ pronounced it to be *Abies Mertensiana*, and as such it is now generally recognized, some good arboriculturists, however, reserving their opinion, and preferring to distinguish it by the name of the California Hemlock Spruce. Specimens of Jeffrey's species are preserved in the Kew and Edinburgh Botanic Museums, and specimens of young branches and leaves are to be had in most nurseries; but until now no specimens of Bongard's species were accessible in this country. We have, however, lately received, through the kindness of Professor Regel, of St. Petersburg, specimens of Bongard's *Abies Mertensiana*, collected by Eschscholtz in Sitcha. From an examination of these it appears clear beyond a doubt, that Jeffrey's plant is not Bongard's *Abies Mertensiana*. Both are

true Hemlock Spruces, but in Jeffrey's the pulvini are small and widely separated, while in Bongard's they are placed unusually close to each other; we know of no Hemlock Spruce which has them so close to each other, and Bongard, in his description, takes particular notice of this character; he says that 'the branches and branchlets are very much tuberculated after the leaves have fallen.' The cones, also, are different, Jeffrey's having a slight resemblance to those of *A. Pattoniana*, and Bongard's being exceedingly like the cone of the Japanese *Larix leptolepis*, or rather the allied *Larix japonica* brought home by Mr. J. G. Veitch."

The true *Abies Mertensiana* has not yet been introduced into this country.

Jeffrey's Californian Hemlock Spruce, first known as Jeffrey's *Abies taxifolia*, and now being introduced as *Abies Mertensiana*, is not then the latter plant, nor is it Lambert's *A. taxifolia*, but a new species; and a name being required by which to distinguish it, "none more fitting can be suggested by any connected with the Horticultural Society than that of their deeply lamented President, the Prince Consort. Nor is it alone His Royal Highness's connection with the Horticultural Society that seems to invite such a recognition. It is perhaps not generally known, but it is not the less true, that His Royal Highness took much interest in coniferous trees, and had made a very complete collection at Osborne, of those kinds which would thrive under exposure to the sea breeze. It is, therefore, more justly due to His Royal Highness, in his quality of a lover of conifers, that the only mark of distinction which botanists have it in their power to bestow upon those whom they delight to honor, is now applied with mournful respect."

The following is a description of *Abies* (*Tsuga*) *Albertiana*, given by Mr. Murray, in the Journal already quoted:—

"A tree of one hundred to one hundred and fifty feet in height. Branches flexible and weeping. Branchlets slender, with a dirty brown bark, pubescent. Pulvini slightly angularly decurrent, thickened at the apex, wholly adpressed to the branchlet; phyllulæ semi-orbicular. Buds small, surrounded at the base by pulvini, and enclosed by one row of

about five scales. Leaves, from three to seven lines long, perennial, subdistichous, petiolate, linear, somewhat pointed, entire, above glabrous and without stomata, below with a midrib, on each side of which are about nine or ten irregular and inconspicuous rows of stomata. Inflorescence not observed. Cones fawn-colored, about an inch in length, elongate-ovate, with five rows of scales in the longitudinal spiral, amounting to about twenty-five scales in all. Scales elongate, oblong-oval, about six or seven lines in length, and $3\frac{1}{2}$ lines in breadth, coriaceous, somewhat glabrous, and substriated on the outside where exposed, tomentose inside and where covered by the neighboring scales, stipitate, eared at the base on one side, rounded on the other, margins slightly irregular. Bracts linear, and bent at the point, with the margins entire, about three lines in length, and three-quarters of a line in breadth. Seeds small, inequilateral, easily separated from the wing, which is about three times the length of the seed, and one and a half times its breadth.

“Agassiz, in his ‘Lake Superior,’ says, ‘there are in all continents remarkable differences between the vegetation of the shores of a continent east and west within the same limit, or the same isothermal line.’ We may add that it seems that the western coasts of continents under such conditions are more likely to have similar conditions of climate than an opposed east and west coast, even although they be nearer in position. Hence, that we may *à priori* expect, under the same isothermal lines, to find the plants of the western coast of America more likely to thrive in this country than those of the eastern coast, and that we may reasonably anticipate that the *Abies Albertiana* will thrive better than the common *Abies canadensis*, a supposition which is confirmed by the more rapid growth and greater hardiness of the young plants of *Abies Albertiana*, already tried.”

The figure accompanying the above description, as we have stated, is an exact representation of a fine hemlock. The tree, from which a photograph was taken, was raised from the first consignment of seeds received from Jeffrey in 1851. It is about fifteen feet high, and the place where it is growing is on the slope of the Grampian Hills, 11 miles west of Perth,

and consequently in a much worse climate, and more exposed district than will be found in three fourths of the kingdom.

This is, we think, the secret of its beauty, for the hemlocks we saw around London would hardly be recognized; they do not thrive in the smoke and damp of England. Nuttall states that the Hemlock (*A. canadensis*) was one of the most common trees throughout the Northwest Coast and Oregon, and the accuracy of his observations is well known. In fact, if a tree so plentiful as this is stated to be, by both Jeffries and Dr. Lyall, Nuttall would have seen and described it as he did other coniferous trees of that country.

DEUTZIA CRENATA FLORE PLENO.—This is the name of one of Mr. Fortune's novelties from Japan, recently exhibited by Mr. Standish. "It looked like a fine addition to hardy shrubs. It has opposite, shortly stalked ovate acuminate finely serrated leaves, and copious terminal racemes of deflexed double white flowers, deeply tinged externally with rose." As the *D. Crenata* is quite hardy this will undoubtedly prove a fine acquisition.

GOLDEN IRISH YEW.—Though the Irish Yew is not hardy in the latitude of Boston, it may not be uninteresting to learn that a new variety has been produced which is called *Taxus hibernica fastigiata*; a specimen recently exhibited was quite fastigate, and the young leaves were of a golden yellow, with a green side, the color being a well marked characteristic of the plant; it is quite hardy [in England] and was raised from seeds of the Irish Yew. Perhaps it may prove hardy here, just as the English Golden Yew is hardy, while the English Yew from which it was raised is always more or less injured by our winters.

THE TREE PÆONIES.—In our notice of the Pæonies in our last volume (XXVIII., p. 337) we referred to the great beauty of the shrubby kinds, and the importance of their more general introduction into our gardens, where they are yet but very little known. We are glad, therefore, to add a word or two, both in regard to their great attractiveness and their treatment, from an English amateur cultivator, Mr. Bateman, who has grown them in the orchard-house in great perfection:—

“The beautiful blossoms of Moutan pæonies exhibited by Mr. Bateman, from the gardens of Knypersley Hall, and the very sensible suggestions which he makes with regard to their treatment, in a recent number of the *Proceedings of the Royal Horticultural Society*, will, we should hope, serve as stimuli to revive the position of these really noble flowers in the estimation of the gardening public. Such an application of “orchard-houses” is suggestive that there are many other subjects amongst flowering plants, to the cultivation of which structures of this kind might be very well adapted. We quote Mr. Bateman’s remarks:—

“So many difficulties attend the cultivation of the different kinds of the Chinese Moutan or Tree Pæony in England, that few persons have any idea of the magnificent effect they are capable of producing. The late Lord Mountnorris did more than any other man to render the Moutan popular, but he possessed only a few—and these not the best—varieties, as contrasted with those that have been more recently introduced; and yet, these drawbacks notwithstanding, the appearance of his bed of Tree Pæonies in flower, was a sight that will never be forgotten by those who were fortunate enough to witness it.

“After Lord Mountnorris’s death, little notice was taken of the Moutan, until the splendid discoveries of Mr. Fortune, when on a mission to China in the service of the Horticultural Society, again directed attention to its surpassing merits. Having myself received one or two varieties through the liberality of the Society, and having obtained others from the Bagshot Nursery, I prepared for their accommodation the warmest and most sheltered spot that I could find in my garden at Biddulph Grange; but although in this situation they grew freely, I was unable—after ten years’ cultivation—to point to more than one season in which they flowered at all satisfactorily. For if the summer was cold and wet, their wood was imperfectly ripened; if the winter was peculiarly severe their constitution suffered; or if it was mild, the early growth that it induced was certain to lead to mischief from late spring frosts or cutting winds. Then again, unless, in addition to a suitable preceding summer and winter, the

weather was fair and calm, and cloudy at the time of their flowering, they either would not display their charms, or if they did they were speedily destroyed, for rain and sun and wind are all alike injurious. Neither can they find a refuge, like other plants, in pot-culture under glass, for the space required for their roots is so great as to put this mode of growing them out of the question.

“Under all these untoward circumstances we need not wonder that these beautiful plants found little favor in the eyes of the horticultural public, or that nursery men should have so entirely abandoned their cultivation that many of Mr. Fortune’s finest discoveries cannot now be obtained in England.

“In my own case, while convinced of the hopelessness of attempting to grow these plants out of doors—in North Staffordshire at all events—and yet not caring to throw my plants away, I placed about a dozen of them in the central border of the orchard-house at Knypersley, where they have flourished marvellously, as a glance at the specimens now contributed will sufficiently prove. I ought to add that many of the varieties that are already over, or that are not yet in bloom, are equally beautiful.”

We should remark, perhaps, that our climate is far more favorable to the culture of Tree Pæonies than that of Great Britain; they only suffer from very severe winters, but they are so easily protected with a covering of leaves, that this ceases to be an obstacle to success. Undoubtedly an orchard-house would be just the place to see them in perfection; for it is true as Mr. Bateman remarks, that the sun and rain soon disfigure the superb blossoms, and they remain in beauty a much shorter period than in-doors. Still, our collection of a hundred varieties has been superb, some of the plants having fifteen or twenty of their huge flowers open at once. We hope Mr. Bateman’s remarks will induce our amateurs to give more attention to this grand shrub, and introduce it into their gardens.

CONIFEROUS TREES OF THE NORTHWEST COAST.—A paper was recently read before the Linnæan Society by Dr. David Lyall, Surgeon and Naturalist to the North American Boun-

dary Commission, giving an account of the botanical collection made by him in his tour. It will be interesting as showing the immense size which some of the trees attain, the *Thuja gigantea* growing 250 feet high. All the species enumerated are hardy here, except *Abies Douglasii*. A new larch, called *Larix Lyalli*, was discovered, and *Pinus flexilis*, recently fully described by Dr. Engleman, was found on the most exposed parts of the Cascade Mountains, "the highest tree of the forest belt."

The author gave an account of the general features of the regions traversed, and of the botanical aspects, and concluded by some notes on the distribution of the principal trees met with near the 49th degree of latitude, and the elevation to which they reached, between the Gulf of Georgia and the Rocky Mountains. *Pinus monticolor* was found to be a common tree in the wooded valleys lying between Colville and the Rocky Mountains. *P. contorta* was very common in various situations in Vancouver's Island, and on the main land. On the east side of the Cascade Mountains it formed the great bulk of the forest between the altitudes of 4500 and 6000 feet; the size of large trees being about 1½ feet in diameter, and 60 to 70 feet high; on the Rocky Mountains it was observed at 7000 feet elevation. *P. flexilis* was observed near the eastern summit of the Cascade Mountains, at 7000 feet elevation, where it formed the highest tree of the forest belt, and was exposed to the full force of the storms, so that it became quite stunted in habit, the trunk of the largest being about 15 feet high, bulging out a little at the base, and then tapering rapidly and spreading at top, into a number of thickish branches. The seeds of this tree, which are about as large as a pea, and are sweet and palatable, were said to be eaten by the Indians. [Nuttall states that they are eaten.] *P. ponderosa*, which extends from the eastern slope of the Cascades to the base of the Rocky Mountains, was found about Colville to rival in usefulness the Douglas fir of the coast, and to be applied to most of the same purposes. *Abies Mertensiana* [*Albertiana*] the hemlock spruce of the axe-men, was one of the most common trees on the west side of the Cascades, and was also met with, but not so commonly on the

eastern side. *A. Menziesii* was plentiful all along the line from the Pacific to the Rocky Mountains, on the Cascade Mountains, as high as 5000 feet, and on the Galton and Rocky ranges, up to 6000 feet. The noble *A. Douglasii* was usually found with it. This last, a very giant on the Lower Fraser River district, became dwarfish on exposed promontories and at great elevations, and ceased to be common at about 5000 feet. [This shows that the attempts to cultivate it in our climate will not succeed, except as a stunted tree.] *A. amabilis* was not uncommon on the Cascade Mountains, up to 6000 feet, and on the Rocky and Galton ranges was found as high as 7000 feet. *A. nobilis* (or perhaps *balsamea*) was a large tree on the Cascade Mountains, the wood soft and easily cut by the axe, the bark covered with blisters, containing a turpentine or balsam-like fluid. A new *Larix*, *L. Lyallii* occurred on the Cascade Mountains, at from 6000 to 7000 feet, at about 6000 feet on the Galton range, and 7000 feet on the Rocky Mountains. *L. occidentalis* was met with frequently between the Cascade and Rocky Mountains, was from its splitting easily applied to many of the uses fulfilled on the other side of the Cascades by the *Thuja gigantea* (or "Cedar") such as making shingles, rails for fences, &c., the *Thuja*, which grows to a large size, and is common near the coast, becoming scarce and diminished in the interior. *Juniperus virginiana* was found occasionally in Vancouver's Island, and along the boundary, up to the Rocky Mountains; at Esquimaux one was observed 46 feet high, and 5 feet 4 inches in circumference, at 6 feet from the ground. *Quercus Garryana*, the only oak seen, was plentiful at the S. E. end of Vancouver's Island, but was not found on the mainland anywhere along the 49th parallel. In the district of the Lower Frazer River, the trees most commonly seen were *Abies Douglasii*, some specimens of which were 30 feet in circumference; *A. Menziesii*, 25 to 30 feet in circumference, and at least 200 feet high; *A. Mertensiana*, common, 150 to 200 feet; and *Thuja gigantea*, of which one measured 20 $\frac{3}{4}$ feet in circumference, at 6 feet from the ground, and was estimated at 250 feet high. This and the Douglas fir were the most useful trees in the coast districts.

STRAY NOTES ABOUT FLOWERS.

FROM THE GARDENERS' CHRONICLE.

THE late publication of Miss Maling's papers on In-door Gardening, in our columns, is so fresh in the minds of our readers, that we need not recall them now. To all lovers of plants, who have not the aid of a greenhouse to winter them, they have given valuable aid, and we hope have been the means of encouraging all who have heretofore been unsuccessful in the treatment of their plants, to go on and make further endeavors to accomplish the best results.

That series of papers having been concluded, Miss Maling has commenced a new series under the above title, of which the following is the first. They contain just such information as the young cultivator needs, and which the old practitioner can read with profit. We commend it to the attention of all lovers of plants, and we shall endeavor to find room for the succeeding papers, as they reach us:—

It is hard work to write every week about a window garden. The window space has limits, and repetition is bad; and then people grow high-minded, and want to get out of doors! So I have begged leave to write only stray notes about flower plans, such as will leave me free to pick up any pretty things that seem to be at all likely to interest other people.

Beginning at this time of year, when fires have just about vanished, what can one describe better than ways of converting suddenly bare grates into knots of flowers?

Everybody of course knows the white, and gold, and brown wicker-work, which makes such pretty ornaments for dinner-tables and drawing-rooms, and which are sold in variety. Well, there is now a screen made of this same wicker-work, over and around which creepers entwine themselves well, and on the foot of which is a flower knot.

The chimney-piece is fitted with a board that curves out prettily, and that fits upon the marble slab by means of a slide beneath it, preventing the necessity of using nails or screws. This board is edged with basket-work, about three inches high, in a pretty light kind of pattern, and a tin-lining case

inside prevents any damp escaping. The wide low box thus formed is charming for growing plants. The shallow depth I think is in itself a good thing, for it constrains us to use shallow pots, and a group of begonias with red blossoms, and ivy, and many climbers, and even lilies and Cape bulbs, and such like, do beautifully thus. For the edges we may have too the ferns, which are lovely everywhere, and creeping pink geraniums drooping down from the box they grow in, and the green Lycopodium, and the blue Lobelia, and the *Isolepis* to cover the surface, which, hanging from the edge, makes really a charming chimney-piece.

Beneath this we have a screen—a sort of folding frame, bending in the middle, so as to project more or less at will, and fitted at the foot with baskets and tins for plants. These baskets, like the upper one, will hold at least two rows placed zig-zag, the back one of course containing the climbers, which will train up the wires or wicker supports provided for them, just as the “German ivy” does in the German rooms.

In summer plants do very well, even placed thus round the fire-place, which is naturally itself further from the window than under common circumstances we should like to place our plants. Still there are a great many that thrive well now without sunshine, and which even grow much better when shaded from its strong glare. Perhaps nearly all green things do so, and what plan could be prettier than that of a ferny fringe all along the chimney piece, reflected perhaps in the mirror, and relieved by three tall white flowers—a white petunia here, and a white Tea rose there—even far commoner things, stocks, candytufts, &c. For splendor, some white gloxinias, whose exquisite purple tubes and the tinge of pink on whose lips are reflected beautifully amidst the bright green foliage; and then once more, say three tall Arums, which will come in unavoidably into every group proposed by me, and which are sure in themselves to make any arrangement elegant.

Now, plants such as those I have named here, are what may grow in any cottage; the gloxinias only require to have some heat, and no amateur who has once tried them will fail to try them again; they grow so quickly, they look so fresh

and velvety, if not forced on too fast, and their lovely bell shaped flowers are so perfect in form and color. Except magnificent orchids, I know not any flowers that vie with the gloxinias, and to raise such seedlings, for those who can wait a year or two, would really be a delightful and most satisfactory sort of amusement.

The plants require root-heat, but this may be very mild ; they are the more beautiful in the leaf the more air they get, but of course when thus cool and airy they do not flower so quickly ; they like a good deal of water at the roots, but not poured over the leaves ; and lastly, they grow rampantly in a mixture of sand and cocoa-fibre refuse, the pots being drained with charcoal.

The heated plant-cases seem to me to be the very best place for them ; they start at the warm end, and grow on in the cooler part. And I believe they never do anywhere as they do in a north aspect—I mean in a plant case, but where the window is all day open, or where the case itself stands outside.

Larger plants, such as roses, carnations, fuchsias, geraniums, myrtles, heliotropes, India-rubber plant, Cissus, and Japan lilies are in their several seasons well fitted to form the flower clump, grounded with English mosses and interspersed with pots of mignonette or lobelias, Lilies of the Valley, and other low-growing things.

Before the chrysanthemums come in, our fender screens are all gone, and during the gay bulb season even the chimney-piece basket does best as a window ledge.

The baskets and screens are made in any style, some being white and gold, others brown and gold, others again all brown, which I think looks so well with flowers, and others again there are that resemble the black bog oak, so popular now in Paris.

FLORICULTURAL NOTICES.

LILIUM AURATUM.—This beautiful lily has again blossomed with Mr. F. Parkman, who exhibited it last season, and is

truly a grand and beautiful species. The plant, though small, had two flowers, open at the same time; and we understood Mr. Parkman to say, his strongest bulbs had four flowers, showing that when they attain their full size they will have at least four, and perhaps twice that number of blossoms. Dr. Hall, who sent home these bulbs, informs us this species is one of the most common in Japan, and that the bulbs are eaten as food, as indeed are many other lilies. So abundant, it is rather surprising Dr. Siebold did not see it at the time he sent home the noble Japan lilies so called, (*L. speciosum*.) It will prove a magnificent addition to our gardens.

LILIUM BROWNII.—This very splendid lily is yet but little cultivated, and but little known. It is decidedly the best of all the trumpet shaped group, the flowers being longer than longiflorum, wider at the mouth, and better shaped; the color is a creamy white on the inside, and brownish on the outside, the contrast adding to the beauty of the flower; the habit is vigorous, and the foliage more abundant than the other species. It is perfectly hardy, and should be in every collection. It flowers just before the longiflorum, in the early part of July.

NEW IRIS.—A splendid Iris has recently flowered in our collection. The flowers are immensely large, measuring about *seven* inches in diameter, the three outer petals or sepals being $3\frac{1}{2}$ inches in diameter, round, bluish white, veined with purple, and a yellow spot at the base, the inner petals small and short, giving the flower a much finer appearance. It was one among a lot of seedlings raised from seeds collected by the Japan Expedition some years ago, and has now flowered for the first time. Quite a number of kinds were produced, but none of them remarkable but this, which is as much superior to other Iris as the *Lilium auratum* is to other lilies. It will be a grand acquisition, and will be likely to place the Iris higher in the estimation of cultivators than it has hitherto held.

LYCHNIS SENNO.—Much has been said of the great beauty of *Lychnis Senno* of the Japanese gardens. Happily, Mr. Fortune succeeded in obtaining it, and sending living plants

to England, which have flowered, and were exhibited at the late Show of the Royal Horticultural Society in June. It is a perennial plant, and is described as having stems $2\frac{1}{2}$ feet high; the leaves beneath and the calyxes stained with chocolate purple, and the flowers fully a couple of inches across, and of a deep crimson." If hardy, as it no doubt is, it will be a superb thing.

NEW VARIEGATED FUCHSIA.—A variegated Fuchsia, named Pillar of Gold, was exhibited by Messrs. Smith at the Royal Horticultural Society, and was commended for the golden glow of its foliage.

693. *PYCNOSTACHYS URTICÆFOLIA* Hook. NETTLE-LEAVED
PYCNOSTACHYS. (Labiatae.) Madagascar.

A greenhouse plant; growing two feet high; with dark blue flowers; appearing in winter; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1833, pl. 5365.

A new and very pretty species, with nettle-like leaves, and spikes of deep blue flowers, something in the way of some of the *Salvias*, but more dense. This is one of the acquisitions of the African expedition, and seeds were sent by Dr. Livingstone to Messrs. Backhouse of York, in whose collection it flowered in January last. It came from the Manganja hills, at an altitude of 3000 feet. The spikes of flowers are more than an inch and a half broad, and the fruit spikes have a very peculiar appearance, almost resembling the head of a teazel. Dr. Hooker says "we are mistaken if it does not become a great favorite in our gardens ere long." We judge from the appearance of the plant it will prove a desirable summer blooming ornament to our gardens, treated in the way of the *salvia*, or *veronica*. (*Bot. Mag.*, March.)

Societies.

WORCESTER HORTICULTURAL.

The Show of Strawberries took place June 28, when there was a fine display of fruit. At a subsequent meeting the following Report was made:—

The Committee to Award Premiums on Strawberries, having attended to that duty, Report—

That owing to the extreme drouth now prevailing, the strawberry crop, for the present season, is a partial failure, and the exhibition has therefore been much less in the quantity exhibited, and in the size and perfection of the fruit than might have been expected under more favorable circumstances. We have the satisfaction, however, of saying that it was much better than any we have had before, and holds out a favorable hope for the future. For some of the prizes there was no competition, and for others there were no specimens deemed worthy of premiums. The amount of those will therefore remain on hand, to be given at future exhibitions. The premiums awarded are as follows:—

To Benjamin Botman, Esq., for his fine specimens of Hovey's Seedling, \$1.

To Hon. Paul Whitin, for his magnificent Jenny Linds, \$1.

To the same, for Trollope's Victoria, \$1.

To C. L. Hartshorn, for Wilson's Albany, \$1.

To Chs. Richardson, for Triomphe de Gand, \$1.

To Hon. Hartley Williams, for the best flavored strawberry, being Hovey's Seedling, \$1.

The Committee were unanimous in the opinion that, of all the varieties exhibited, in quantities sufficient to entitle them to a premium, the Hovey's Seedling was incontestibly the best in point of flavor, and they awarded the premium accordingly. The nearest approach to it was the Downer's Prolific, in the collection of Rev. S. A. Cushing, which bids fair to be a very valuable variety, being very handsome in form and color, (a rich dark scarlet) and is said to be quite productive. We shall look with interest to the future exhibitions of this kind. The Hermine was another fine flavored new variety in the same collection, but not equal to the Downer.

Mr. Cushing exhibited twelve varieties at the first exhibition, and three at the last, most of them new varieties, but little known as yet in this region. As they did not come within the rules, no premium was given them; but in consideration of the interest manifested by Mr. Cushing in our exhibitions, and of the contributions thereto by him, now and heretofore, the committee would most respectfully recommend to the Trustees that they present him a certificate of membership of the Society. They do this the more readily, as they understand that Mr. Cushing did once send the money to pay his admission fee, but in consequence of a mistake, it was applied to another public purpose, of perhaps equal value, though not to him of the same interest, nor yielding to him the same personal advantages.

In addition to the two varieties, for which premiums were given to Hon. Paul Whitin, he exhibited also a box of "Rivers' Eliza," a very large English variety. It is, perhaps, the highest flavored variety known, but is of a spicy, rather than a strawberry flavor, and one that, in our apprehension, would not meet with so general favor as many other kinds.

The Triomphe de Gand, judging from the specimens exhibited by Mr. Richardson and others, is a berry of good, or rather large size, of good medium flavor, and generally of a rather bad or coxcomb shape. Its value for general culture remains yet to be proved.

All of which is respectfully submitted by

THE COMMITTEE.

FRUIT GROWERS' OF WESTERN NEW YORK.

The Summer Meeting of the Fruit Growers' Society of Western New York, was held in Rochester on the 24th of June. At 11 o'clock President Ainsworth called the Society to order. A large number of members were present from this section of the state, and visitors from Ohio, Canada West, and other sections of the country.

The minutes being read and approved, a Committee of five was appointed to report subjects for discussion. The following were presented by the Committee :—

STRAWBERRIES.

1. What is the most profitable strawberry for market ?
2. Which are the four most desirable varieties for general cultivation, including early, medium and late ripening sorts ?
3. The best method of cultivating the strawberry ?

CHERRIES.

4. Which are the three best varieties for market ?
5. Which are the twelve best varieties for general cultivation, including early, medium and late ?

CURRANTS.

6. Which are the four most desirable varieties for general cultivation ?
7. The best method of preserving the plants from the ravages of the saw-fly or currant worm ?

BLACKBERRY.

8. Which are the most desirable varieties for general cultivation ?

RASPBERRY.

9. Which are the six best sorts for general cultivation ?
10. The best method of cultivation ?
11. The best three varieties for market ?

DISCUSSIONS.

PROFITABLE STRAWBERRIES.—*What is the most profitable Strawberry for Market ?*

H. N. Langworthy said Early Scarlet should not be lost sight of among new varieties. Triomphe de Gand was desirable, and also Wilson. For one variety would prefer Early Scarlet.

H. E. Hooker had not grown strawberries for market since the introduction of the Wilson. Thought Wilson the best for market if only one variety was grown.

M. B. Bateham, of Ohio, was with a large strawberry grower of Cleveland not long since. He had 15 acres, and picked 150 bushels a day. Had but two varieties, Wilson and Triomphe de Gand. States that he could raise Wilson for one-half the price he could any other variety. Wilson was pretty good when grown in the sunny climate of Ohio. About Cincinnati the Iowa is grown extensively for early fruit. Some are introducing Jenny Lind in its place.

Chas. Downing didn't like the Wilson. From the beds he had seen, judged Russell's Prolific would bear as great a crop as the Wilson. It seemed to be the most productive large berry he was acquainted with.

C. M. Hooker had grown strawberries for market for some years. Had discarded everything but Early Scarlet and Wilson.

Mr. Hoag, of Lockport, considered Longworth's Prolific next to Wilson for productiveness, but none that he had tried produced more than one-third as much as Wilson. Triomphe de Gand winter-killed.

P. Barry had but little experience in growing strawberries for market. Wilson seemed to be the most profitable berry for this market, for it is large, and people will pay as much for it as for better fruit. Russell's Prolific promised well. It is as large as Wilson, of better quality, and seemed to be as productive.

FOUR MOST DESIRABLE STRAWBERRIES FOR GENERAL CULTIVATION.—*Which are the four most desirable varieties for general cultivation, including early, medium and late ripening sorts?*

Chs. Downing recommended Jenny Lind, Longworth's Prolific, Triomphe de Gand, Russell's Prolific.

M. B. Batcham—Jenny Lind, Wilson, Longworth's Prolific and Triomphe de Gand, for Central Ohio.

Dr. Sylvester—Jenny Lind, Hooker, Wilson, Triomphe de Gand. The Hooker did not winter-kill. Jenny Lind and Burr's New Pine ripen about the same time; the former perhaps a little the most productive.

H. N. Langworthy would recommend about the same list as Dr. Sylvester, but was much pleased with what he had seen of Russell's Prolific.

P. Barry—For our own use would select Early Scarlet, Hooker, Longworth's Prolific and Triomphe de Gand. Among the newer varieties there were some very promising—La Constante, foreign, and Russell's Prolific, American, might be mentioned.

CULTIVATING THE STRAWBERRY.—*What is the best method of cultivating the Strawberry?*

H. E. Hooker—Set the plants in April or May, in well prepared land not previously occupied with the strawberry. Planted in rows four feet apart, and one foot in the rows. Kept the ground clean until runners appeared, and then allowed them to take possession of the soil, leaving alleys between the rows or beds about two feet wide.

H. N. Langworthy believed in growing strawberries in hills and keeping the runners off the plants. This produced splendid fruit, but the soil needed mulching to keep the fruit clean.

E. Moody pursued the plan recommended by Mr. Hooker. For economy he would only grow one crop on the same ground—then plough it up, having another bed ready to give fruit.

E. W. Herendeen said the Triomphe de Gand would not give a good crop unless the runners were kept off.

Mr. Barry said when strawberries were grown in a mass as recommended by some, the ground becomes hard during the spring, and as there is no chance for cultivation, the crop suffers in dry weather and is often almost a failure.

THREE BEST CHERRIES.—*Which are the three best Cherries for market?*

Mr. Barry said the demand in the market here was always the best for black cherries. He would, therefore, recommend Black Eagle, Monstreuse de Mezel, and Elkhorn. For a white cherry, Napoleon Bigarreau.

W. P. Townsend recommended for the Lockport market, Gov. Wood, Elkhorn and Black Tartarian.

Benjamin Fish recommended Gov. Wood, Black Tartarian and Black Eagle. The Elkhorn was apt to rot on the tree.

H. E. Hooker—Most of the cherries bought in the Rochester market were for transportation, and the firm fleshed varieties were, therefore, most sought. Yellow Spanish, Napoleon Bigarreau and Monstreuse de Mezel he considered the best.

Mr. Townsend said last season he lost the entire crop of Napoleons by rotting, and the year before it was nearly as bad.

Mr. Barry said the Black Tartarian tree had proved tender of late years.

TWELVE BEST CHERRIES.—*Which are the twelve best Cherries for general cultivation, including early, medium and late?*

J. Green—Napoleon Bigarreau, Yellow Spanish, Black Tartarian, May Duke, Knight's Early Black, Coe's Transparent, Reine Hortense, Elton, Bigarreau de Mezel, Tradescant, Black Heart, Early Richmond, English Morello.

E. Ware Sylvester—Early Purple Guigne, Gov. Wood, Burr's Seedling, Yellow Spanish, Reine Hortense, Black Eagle, Black Tartarian, Great Bigarreau, Holland Bigarreau, Downer's Late, Coe's Transparent, Late Duke.

F. W. Lay—Knight's Early Black, Governor Wood, Black Tartarian, Napoleon Bigarreau, Early Purple Guigne, Coe's Transparent, May Duke, Rockport Bigarreau, Carnation, Black Eagle, Sparhook's Honey, Elton.

Benjamin Fish—Early Purple, Gov. Wood, May Duke, Black Tartarian, Black Eagle, Belle d'Orleans, Yellow Spanish, Reine Hortense, Late Duke, China Bigarreau, Turkish Bigarreau, White Heart.

P. Barry—Early Purple Guigne, Belle d'Orleans, May Duke, Reine Hortense, Yellow Spanish, Gov. Wood, Napoleon Bigarreau, Black Eagle, Black Hawk, Tradescant's Black, Monstreuse de Mezel, Downer's Late.

Charles Downing—Early Richmond, Belle d'Orleans, May Duke, Coe's Transparent, Gov. Wood, Rockport Bigarreau, Elton, Champagne, Reine Hortense, Downer's Red, Great Bigarreau, Late Duke.

Wm. Smith, Geneva—Belle d'Orleans, Early Purple Guigne, Early Richmond, Gov. Wood, Elkhorn, Yellow Spanish, Napoleon Bigarreau, Black Tartarian, Coe's Transparent, Reine Hortense, Monstreuse de Mezel, White Tartarian.

Elisha Moody—Early Purple Guigne, Reine Hortense, Gov. Wood, Coe's Transparent, Yellow Spanish, Napoleon Bigarreau, Knight's Early Black, Bigarreau de Mezel, Elkhorn, May Duke, Black Tartarian, Downer's Late Red.

H. E. Hooker—Early Purple, Gov. Wood, May Duke, Coe's Transparent, Knight's Early Black, Black Tartarian, Black Eagle, Early Richmond, Yellow Spanish, English Morello, Bigarreau de Mezel, Downer's Late.

D. P. Wescott—Early Richmond, (for cooking,) Knight's Early Black, May Duke, Gov. Wood, Delicate, Black Hawk, Black Tartarian, Black Eagle, Kirtland's Mary, Great Bigarreau, Downer's Late, Elliot's Favorite.

W. P. Townsend—Early Purple, Townsend, Gov. Wood, May Duke, Black Eagle, Elton, Reine Hortense, Belle d'Orleans, Rockport Bigarreau, Yellow Spanish, Black Tartarian, Elkhorn.

H. E. Maxwell, Geneva—Black Eagle, Yellow Spanish, Elkhorn, Monstreuse de Mezel, Napoleon Bigarreau, Gov. Wood, Coe's Transparent, Black Tartarian, Reine Hortense, May Duke, Belle Magnifique, Late Duke.

M. B. Bateham—Black Tartarian, Early Purple Guigne, Gov. Wood, Belle d'Orleans, Yellow Spanish, Rockport Bigarreau, Black Hawk, May Duke, "Early May" of the West, (may prove *Donna Marie*,) Reine Hortense, English Morello, Late Duke.

C. L. Hoag—Black Tartarian, American Heart, Belle d'Orleans, Early Purple, Gov. Wood, Townsend's Seedling, Belle Magnifique.

FOUR MOST DESIRABLE CURRANTS—*Which are the four most desirable Currants for general cultivation?*

Charles Downing—White Grape, White Dutch, Red Dutch, May's Victoria, Versaillaise.

P. Barry—White Grape, Victoria, Cherry, Versaillaise.

Elisha Moody—Cherry, White Grape, Victoria, Fertile d'Angers.

H. E. Hooker—Red Dutch, Victoria, White Grape, Cherry.

E. W. Sylvester—Cherry, White Grape, Champagne, Black Naples.

J. Frost—Cherry, La Versaillaise, White Grape, Black Naples.

RAVAGES OF THE SAW-FLY.—*What is the best method of preserving the Currant plants from the ravages of the saw-fly or currant worm?*

Mr. Barry said the most effectual remedy was air-slaked lime, put on every day until the worms are destroyed.

Dr. Sylvester had succeeded in killing them with whale oil soap.

H. E. Hooker used soap suds made of soft soap, strong. Had used lime and seen the worms eat the leaves when both them and the leaves were covered with lime.

B. Fish had used lime successfully.

BLACKBERRY—MOST DESIRABLE VARIETIES.—*Which are the most desirable varieties of the Blackberry for general cultivation?*

H. N. Langworthy—The Lawton is not hardy, and is very troublesome to gather on account of the thorns. Had grown the Dorchester for several years, but it had never produced half a crop. Had grown Dr. Miner's blackberries and thought well of them.

H. E. Hooker said our desirable blackberries had proved very undesirable.

Dr. Miner was called upon for a description of his Seedling Blackberry, but declined to respond, stating that there were others there who were acquainted with it. The President then called upon J. Vick, who said he had visited the grounds of Mr. Miner for the purpose of examining this fruit, and was much pleased with what he saw. This blackberry is of the running or Dewberry species, and roots at the points like the Black Cap raspberry. The fruit, like most of the species, is sweet and of fine flavor.

The Doctor had two varieties, one some ten days earlier than the other. The earliest one is the best flavored, but the berries are sometimes imperfect. This is a common fault with the Dewberry. The other variety gave uniformly perfect berries as far as he had observed. The shoots that are to produce the fruit next season come from the ground like the raspberry, and are allowed to run at will until the following spring. A good portion of them will be found rooted, giving new plants. A stake some five feet long is driven into the ground near each plant, and they are set about six feet apart. The running branches are then collected together and twisted around the stake four or five times, tied with a stout cord to the top of the stake, and all above cut off. As soon as growth commences a great number of lateral shoots are thrown out, entirely concealing the stake and branches. These bear the fruit, the weight of which causes them to droop, forming a very pretty pyramid. The amount of fruit produced is very great—often three or four quarts to each plant. In fact the whole plant looks like a pyramid of fruit. It is easily gathered, as there is no thorns to interfere with the operation, the fruit standing out free from leaves or branches.

The President made a statement somewhat similar to the preceding. He had noted the imperfection of many of the berries, and though the flavor was excellent, this berry, like all of the blackberry family, left a kind of woody taste in the mouth.

RASPBERRY—SIX BEST SORTS.—*Which are the six best sorts of the Raspberry for general cultivation?*

P. Barry—Fastloff, Vice-President French, Franconia.—Best for Market—Orange, Red Antwerp, H. R., Black Cap.

Charles Downing—Orange, Vice-President French, Northumberland Fillbasket, Franconia, Purple Cane or Red Prolific, Fastloff.—Best for Market—Hudson River Antwerp, Franconia, Northumberland Fillbasket.

H. E. Hooker—Doolittle Black, Red Antwerp, H. R., Brinckle's Orange, Hornet, Fastloff, Franconia.—Best for Market—Black Cap, Hudson River Red, Orange.

F. W. Lay—Fastloff, Doolittle Black Cap, Hudson River Antwerp, Franconia, Brinckle's Orange, Knevet's Giant.

J. Frost—Brinckle's Orange, Belle de Fontenay, Mervelle de Four Seasons, Black Cap, Franconia, Red Antwerp.—Best for Market—Brinckle's Orange, Black Cap, Belle de Fontenay.

CULTIVATION OF THE RASPBERRY.—*What is the best method of cultivating the Raspberry?*

Mr. Downing said the common practice on the Hudson was to plant in hills four feet apart each way. Four or five canes are reserved for each hill, tied to a stake four feet high. When bearing is over the stakes are pulled up and the old canes are cut away. The new canes are laid down and covered with a little earth every fall.

H. N. Langworthy did not use stakes, but tied the canes together, which seem to give sufficient support. The Society, after agreeing to meet in Rochester in the Autumn, adjourned.

Massachusetts Horticultural Society.

ROSE SHOW.—In our last number want of space prevented us from giving the full account of this Show: It is as follows:—

The Moss Roses of Messrs. Parkman, and Hovey & Co., comprised a large number of fine kinds, many of them new. The show of cut flowers was large and beautiful; they were contributed by W. C. Strong, Breck & Son, Barnes & Washburn, Francis Parkman, Hovey & Co., C. J. Prince, J. Nugent, J. McTear, and others. D. Zingerble sent a very fine lot of Sweet Williams, and Hovey & Co. Florist's Pinks.

AWARD OF PRIZES AND GRATUITIES.

HARDY JUNE ROSES.—For the best twenty varieties, to Hovey & Co., \$4.

For the next best, to F. Parkman, \$3.

For the best ten varieties, to J. Nugent, \$2.

For the next best, to J. Breck & Son, \$1.

HARDY PERPETUALS.—For the best twenty varieties, to Hovey & Co., \$6.

For the next best, to J. C. Chaffin, \$4.

For the best ten varieties, to W. C. Strong, \$4.

For the next best, to J. Nugent, \$2.

MOSS ROSES.—For the best, to F. Parkman, \$4.

For the next best, to Hovey & Co., \$3.

TENDER ROSES.—For the best display, to J. Nugent, \$4.

For the next best, to J. McTear, \$3.

SWEET WILLIAMS.—For the best display, to D. Zingerble, Silver Medal.

For the next best, to J. McTear, Bronze Medal.

CUT FLOWERS.—For the best, to Washburn & Curtis, \$4.

For the next best, to W. C. Strong, \$3.

For the next best, to J. Breck & Son, \$2.

For the next best, to F. Parkman, \$1.

GRATUITIES.—Hovey & Co., for pinks, \$2.

Eliphalet Stone, for roses, \$5.

Francis Parkman, for roses, \$3.

And awards of \$1 to various contributors of cut flowers.

Saturday, July 4.—The stated quarterly meeting of the Society was held to-day, but there being no quorum it was adjourned one week, to July 11.

July 11.—The adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. L. Wetherell moved that a portrait of the President of the Society should be procured, agreeably to a former vote of the Society, and that the same proportional amount be appropriated as was expended for previous portraits. The motion was unanimously adopted, and L. Wetherell, F. Parkman, and R. M. Copeland appointed a Committee to attend to the execution of the same.

On motion of F. Parkman it was voted that the Society award diplomas or certificates for the production of new or superior varieties of fruits,

flowers, plants, or vegetables, or for superior specimens of cultivation of either flowers, fruits, plants or vegetables, and F. Parkman, J. S. Cabot, and E. A. Story were appointed a Committee to attend to the same.

Capt. Austin reported in reference to a claim of the Mount Auburn Cemetery for filling up bog land, and, on motion of Mr. Cabot, it was voted to refer the whole subject to the Treasurer for settlement.

J. C. Park, S. C. Perkins, Chas. Burchard, and Newell Harding were elected members.

Adjourned one week, to July 18.

July 18, 1863.—An adjourned meeting of the Society was held to-day—the President in the chair.

The President read the following letter, in reply to H. H. Hunnewell, Esq.:—

BOSTON, JUNE 30, 1863.

H. Hollis Hunnewell, Esq.:—

Dear Sir,—I have the great pleasure of informing you that your letter of May 1, enclosing a Bond of the Illinois Central Railroad Company, for \$500, was laid before the Society at their last meeting; and I am instructed to inform you that your liberal donation was unanimously accepted, and authorized to be appropriated as the Hunnewell Fund, the income to be devoted to the encouragement of the “introduction and cultivation of new evergreen trees and shrubs, and particularly of new varieties of hardy rhododendrons.”

Permit me, in behalf of the Society, to tender you their thanks for this act of munificence, so timely, and for objects so well worthy of encouragement, contributing as they do, to the decoration of our gardens and grounds. Let me assure you that it will be held in grateful remembrance, not only as a testimonial of your deep interest in the welfare and progress of the Society, but as a token of your appreciation of beautiful trees and shrubs, and an enduring memento of your own zeal in the introduction of the many rare and choice species and varieties, which render your grounds at “Wellesley” so picturesque and ornamental.

I enclose you a copy of the votes passed at the meeting of the Society.

I have the honor to be, Dear Sir,

Your obedient servant,

C. M. HOVEY, President.

It was voted that the letter be entered upon the Records.

Adjourned two weeks, to August 1.

G horticultural Operations

FOR AUGUST.

FRUIT DEPARTMENT.

THE long drought has at last given out, and the earth has been watered with repeated and copious showers, which have given a fresh growth to

vegetation. Everything suffered more or less, and fruit trees, though but a moderate crop, showed the want of moisture.

GRAPE VINES, in the very early houses, should now be pruned, and washed and cleaned, preparatory to forcing next month. See that the house is cleared of all insects. Vines, in the ordinary grapery, will now have their crop quite ripe, and ready for cutting, if not already gathered. Air freely, night and day, and preserve a dry atmosphere. Cold graperies will now require attention, as this is the season when mildew is often troublesome; guard against cold draughts of air, and close the house rather early at night; continue to damp down the walks in dry weather, and stop all laterals in proper time. After the late heavy rains the border will probably be wet enough; but if the weather should be dry, give a good watering. Vines, in the open air, will now be growing vigorously, and pruning off superfluous wood should be continued. Lay in the strong canes, cutting away all that are not wanted, and stop laterals with fruit, two or three eyes beyond the bunch.

STRAWBERRY BEDS may be made this month, as soon as the young plants are sufficiently rooted, which is usually about the 20th. Manure and dig the ground preparatory to planting. Clean and weed out beds planted in the spring, and lay in the runners carefully as they grow. Plants now laid into small pots will answer for forcing next winter.

RASPBERRY PLANTATIONS may now have all the old wood cut away.

PEACH TREES, in pots, now maturing their fruit, should be sparingly watered. Young trees should, however, be mulched with manure, and watered freely.

SUMMER PRUNING pear and other trees should be continued all the month.

TREES should now be budded.

THINNING FRUIT should now be attended to; although the crop is not large, yet some kinds will need thinning.

FLOWER DEPARTMENT.

As the autumn approaches, the winter flowering plants will require more attention; generally, they should have all been repotted, pruned and plunged out, before this; but for late blooming it is well to reserve some of the plants for work this month; by this means there will be two sets, one coming on later than the other. Climbing plants should now be attended to, and the young wood laid in regularly, whether upon the rafters or the back wall of the house; water freely, now that they are making their young wood. This is the time to lay in a stock of soil for winter use, stacking the loam in conical heaps, to prevent the rains from washing away its strength.

AZALEAS will now have mostly made their growth, and will be setting their buds, and may now be removed to the open air, selecting a half-shady situation, sheltered from easterly winds. Such specimens as it is desired to grow large may be retained in the house, and if their flower buds are nipped out, they will make a new growth, though, of course, somewhat to

the injury of next year's bloom; but when the object is to get large specimens quickly, this is not much of a sacrifice. See that the plants are clear of thrips and red spider, before they are removed.

PELARGONIUMS, as soon as they begin to break well, should be turned out of the pots, the old earth shaken off, the roots pruned, and the plants put into much smaller pots, in a rather light soil. Water carefully, until they begin to grow freely.

CHRYSANTHEMUMS should now be allowed to grow without further stopping. Water twice a day in dry weather, occasionally using liquid manure.

FUCHSIAS, growing vigorously, may have one more shift into larger pots. Water with liquid manure.

BEGONIAS may have another repotting, if large specimens are wanted.

ACHIMENES, started late, may now be repotted.

FERNS, wanted to make good specimens, may be repotted; keep them well syringed, but not too wet at the root.

OXALIS HIRTA, AND **BOWIEI** should be potted this month.

HELIOTROPES, **FUCHSIAS**, and other plants, for winter flowering, should be repotted.

CAMELLIAS should be freely syringed in dry weather, but not watered too heavily at the root.

BEDDING PLANTS, of various kinds, intended for a spring supply, should be propagated the last of the month.

SEEDS of winter flowering annuals may yet be planted.

FLOWER GARDEN AND SHRUBBERY.

Since the heavy refreshing rains of last month, the lawn has put on its emerald hue, and now needs frequent cutting to keep it short. Roll well, and mow every ten days. Hoe and rake and roll the walks, and go over and clean the shrubbery, removing any useless branches, where crowded, and injuring the appearance of the plants. Nothing adds more to the appearance of the garden than hard, smooth, clean walks, upon which it is a pleasure to tread.

WHITE LILIES may be removed now; at any other season the blooming is much injured.

GLADIOLUS should be tied up to neat stakes.

DAHLIAS should be tied up every week. Prune away superfluous shoots, and mulch and water if fine large blooms are expected.

CARNATIONS AND **PICOTEES** should be layered.

PINKS should be divided and reset.

GERMAN ASTERS AND **DOUBLE ZINNIAS** should be tied up to neat stakes.

JAPAN LILIES, if shaded from the hot sun, will retain their beauty much longer.

SEEDLINGS OF PERENNIALS, raised last month, should be transplanted into beds, where they can stand till spring.

A M E R I C A N P L A N T S .

THE term "American Plants" is applied by English cultivators to all those shrubs which spread over our entire country, growing in similar localities and soils, and requiring in their growth similar treatment, all hardy there, but some of the species from the Southern not hardy in the Eastern States. They include the *Rhododendron*, *Azalea*, *Kalmia*, *Andromeda*, *Ledum*, *Prinos*, *Vaccinium*, *Clethra*, and *Menziesia*. This name, so appropriate then, seems to convey so good an idea of all those plants of which the *rhododendron* and *azalea* are the type, that we use it in speaking of the two last, because as magnificent as these are, the others should not be excluded from ornamental plantations of any extent, though they may be spared in small collections, or grounds of limited space.

As all these shrubs are likely to become objects of greater importance to amateurs, and gentlemen owning country residences, by the liberal premiums, which will another year be offered by the Massachusetts Horticultural Society, through the great liberality of Mr. Hunnewell, we make no apology for again bringing them to the notice of our readers, assured that too much cannot be said in their praise, and that it is only for want of information in regard to them, and advice as to their culture, that they have not, like many other more rare shrubs, been extensively planted and more generally seen in our gardens and ornamental grounds. There is no doubt in regard to the labor of rearing young plants, and the skill required to bring them forward successfully; but when once established in the open ground, there are no plants properly treated that grow more readily, and none that transplant with more ease and certainty of living. In fact, unlike most deciduous plants, they may be removed at any time from April to October, though of course the hot weather of July and early part of August would be attended with less success; with the cooler weather of September the work may begin and be continued until the middle of October. The

plants then get established before winter, and flower the succeeding year as well as if they had not been transplanted. Mr. Hunnewell's experience, which he has himself given in our pages, is alone a convincing proof of the suitability of this season, and certainly there is far more leisure to do it well, than the hurried months of April and May. It is not in fact a disputed question; the removal of some thousands of plants of all sizes, in various exposures, settles this; and it only remains a question of convenience whether the work shall be done in spring or early autumn.

As we have stated, no plants can be removed with more ease or certainty of living; and we may say, whose culture is more simple; yet we should err if we did not add, when the conditions of soil are such as all American plants require. The rhododendron is certainly, as it may well be, aristocratic in its habits; in some soils it refuses to flourish, and is rather particular as to its companions, growing much better in masses, with its congeners, than mixed with miscellaneous shrubs. In such company they will thrive well, but their full glory is only displayed when their wants are fully supplied.

The natural habitat of the rhododendron is generally upon the skirts of elevated grounds, or on or near the margin of morasses, where, in the former instance, they receive the moisture which percolates from the earth above them, or, in the latter, draw it up from below without being exposed to excessive moisture or dryness at any time; and often upon the edges of woodlands where they receive their cooling shade without being exposed to the drip of the foliage. In cultivation it is well to imitate where we can its natural locality, which is similar to that of all the so called American plants.

Such being what they naturally love, it may be well to state what they especially dislike, that all planters may avoid one great error in their cultivation. None of the American plants will flourish in a clayey, chalky, or limestone soil. These should never be mixed with the earth, but should be wholly removed for one prepared to plant them in, if the grounds do not offer any other. The roots are very small and

cannot penetrate a stiff soil, and the plants soon languish and die. Anything from a sandy loam to a peaty soil will answer, and they are not so particular in this respect as has often been stated by many writers on the growth of American plants, who have asserted that a peat soil was actually necessary to success. We quote the evidence of an English cultivator, who has had decided success in the growth of the rhododendron and other plants, to show that this idea is exploded with many of the notions of the old authors:—

“The erroneous opinion that peat or bog earth are the only suitable soils for the growth of rhododendrons cannot too soon be dispelled. The implicit belief in such has alone debarred many from attempting their cultivation, when no really formidable obstacle was present. An excellent compost may be made as follows:—To two parts of sandy loam, or indeed any sandy soil which does not contain much chalk or lime, add one-fourth part leaf-mould, one eighth sand, and one-eighth well decomposed manure. If wanted immediately the whole should be well incorporated before using; but much advantage would result from allowing the mixture to remain twelve months, turning the whole well together two or three times during that period. When the fertility of the beds becomes exhausted, as we have previously observed, a dressing of thoroughly rotten manure will be found highly beneficial. Under such conditions, manure is as grateful to a rhododendron or an azalea as to the most confirmed of vegetable gourmands.”

Having had the very best success in the growth of these plants, many of which in our collection are now bushes eight feet high and as much in diameter, and filled every year with thousands of flowers, we give the method we have adopted to attain success:—

Our grounds are, a portion of them, naturally peaty or boggy, where formerly, when we came into possession of them, the *Azalea viscosa*, and *Kalmia angustifolia* grew in great luxuriance; but it was shallow, underlaid with sand, and resting on a solid bed of clay. In this the plants grew well for a few years, when they came to a stand. The soil was too shallow, and the subsoil too poor, and in dry seasons

deficient in moisture. The object was to deepen the soil, but as we had no earth of the same kind to spare, it occurred to us to trench it, carting off a portion of the sand, and supplying its place with brush which would soon decay and form a rich bed of vegetable soil. This was done; the brush was cut fine, and after the first trench was opened this was trod in as solid as possible to the depth of fifteen inches; on this part of the sand and surface soil from the next trench was thrown, and the trench filled with brush (the trimmings of trees, &c.) as before. When the whole piece was finished the surface was levelled and the plants removed to it. They took hold of the soil immediately, and have grown more in one year than they did in two previously. As the ground has settled slightly, the surface has been replaced with well rotted manure, and covered with leaves in winter, which are dug into the soil in spring; this has kept them in admirable condition.

This simple plan can be adopted in any garden: if the soil is stiff and clayey, it should of course be well drained; then, after marking out the size of the plantation, remove all the soil; fill the excavation nearly to the surface with brush; tread it down well and cover to the depth of fifteen inches with loam, refuse of the potting bench, peat, sand, leaf-mould, and very old manure, well mixed together; a good portion of sand, to the extent of a quarter, doing no harm, especially if the loam is heavy. When bog soil can be had, of course that is best, but where it cannot, the above will answer perfectly. Transplant immediately, if the proper season, if not let the ground remain and settle till wanted. Those who possess the stiffest soil can have the American plants in great beauty by this simple method.

As a means of supplying a suitable soil, as the ground settles, or in replanting, as all rhododendrons should be every few years, we have found it very convenient to have a compost made of the refuse of the potting bench, small brush, sweepings of the lawn, and rakings of the flower beds and borders, thrown into a heap and turned over from time to time; this is in fact a real vegetable mould, which if mixed with a little sand is just what the rhododendrons thrive in.

No one who has an acre of ground need be without such a compost at all times.

This, as we have said, is the season to remove the American plants. If the ground is ready, proceed with the work at once, the sooner the better; but if the ground is not ready, begin now to prepare it for the spring. It will be all the better for remaining over winter, and in April or May the work can be safely done.

We might say something here about raising the plants from seed, as undoubtedly many attempts will be made to produce new varieties; but a reference to our previous volumes will give all the information needed on this head. It is a slow and tedious process, but still we hope experiments will be made, and ere long our catalogues enriched with American seedlings of merit. When success shall attend the growth of the plants, as undoubtedly it will, the supply will increase as rapidly as the demand. We have no doubt that Mr. Hunnewell's premiums will immediately advance the culture of the rhododendron and place it sooner or later among the most popular as it is first among magnificent plants.

ROCKWORK AND HANGING PLANTS.

MUCH inquiry has been made, for some time past, as to what plants are best to fill a hanging basket, and to cover it with the most elegant profusion of trailing verdure. For this purpose we do not want climbers, but creeping plants that abound in foliage. One of the most common, and perhaps the most easily cultivated, is the Moneywort (*Lysimachia nummularia*.) This is a beautiful green trailing plant, with opposite ovate leaves, bearing yellow flowers. Its long shoots are very elegant, when hanging over the sides of a rustic basket or vase, supported on a pedestal, or suspended from the upper part of a window. This plant, if kept moist and exposed to the sun, will flower abundantly, while if removed to the shade, it will produce but few flowers. As the plant is chiefly valuable for its foliage, however, it seems to be un-

necessary to avoid the shade, which is rather favorable to the development of its leaves. The plant requires a great deal of water.

CREeping SAXIFRAGE, (*Saxifraga sarmentosa*.)—This has long been a favorite plant for hanging vases, and is known under a variety of names, such as the Wandering Jew, Beef Steak plant, Strawberry Geranium, &c. The leaves are roundish, hairy and toothed, sending off creeping shoots exactly in the manner of the strawberry. One of the most distinguishing properties of this plant is the color of the leaf, which is of a reddish green or copper color. It never bears a purely green leaf. Where this plant has been placed under the most favorable circumstances, it is remarkably graceful. It does not produce such a profusion of foliage as the Moneywort, but it hangs in beautiful tufts of all sizes, and rising one above another in stages. Another plant of this genus, the OPPOSITE-LEAVED SAXIFRAGE (*Saxifraga oppositifolia*) flowers in May, and Mrs. Loudon says of it, that "a more suitable and beautiful plant cannot be appointed to adorn the brow or enliven the bosom of artificial rockwork." Several other saxifrages are suitable for rockwork. They may be propagated by dividing the plants in spring into small pieces, taking care that each has some fibres or a piece of root. The pieces may be planted in small pots, six in each, filled with a rich compost of leaf-mould and peat in equal portions. After this, they must be well watered, and plunged in an open border, exposed to the morning sun only. In dry weather they must be watered, and require no other care.

Several exotic species of Cinquefoil (*Potentilla*) are excellent for rockwork, and might be advantageously cultivated in hanging pots or baskets. According to Mrs. Loudon, the most ornamental species are "low, few of them exceeding one foot in height, and the greater part not being above six inches. They are delightful plants for pots or for rockwork, and the whole are so hardy, and of such easy culture, that they will bear neglect better than most other inhabitants of the border or the flower garden. Of all the kinds, *P. Russelliana*, with rich dark scarlet flowers, is by far the handsomest."

It is needless, in this connection, to do much more than to name the *Verbena*, the different species and varieties of which make the most elegant of all rockwork, so far as the flowers are concerned. The most valued of the genus is the *Verbena Melindres*. This is easily propagated by cuttings, and it has been multiplied by the arts of florists into many very beautiful varieties. The branches grow to the length of three or four feet, and they may be either trained to a trellis, or be allowed to trail over the pots, or both, as taste or fancy may dictate. "At Chatsworth," says Mr. Paxton, "we have them on both systems, and find both to answer admirably; the branches of many growing the length of four or five feet, entirely covering the pot over which they hang, or hiding the trellis to which they are trained. And when elevated in a conspicuous part of the greenhouse, or placed in a warm part of the flower garden, the effect they produce is truly beautiful, a continual display of loveliness till the frost sets in."

We have already distinguished between creepers and climbers. "In general, all climbing plants, when they are not furnished with the means of raising themselves up, extend their shoots along the surface of the ground, when they become what are called trailers, or they root into it like the ivy, and become what are called creepers." For extensive rockwork, and for covering walls, no plant is better, excepting the ivy, than the *Ampelopsis*, or *Virginia Creeper*; but for hanging pots and vases something very delicate is wanted. The ivy does not thrive well in the open air in this country; but there is a species called the German ivy, which is more delicate than other species, and this is strongly recommended as an excellent plant for hanging vases, the foliage being small and green, and growing freely in beautiful tufts. The ivy requires a deep and somewhat light soil, into which its roots can easily penetrate; and when grown for any purpose in pots it should be abundantly supplied with water. The same remarks will apply to the honeysuckles which we have applied to the *Ampelopsis*. They are too coarse and woody for pots and vases. There are some species of the *Jasminum*, which we have seen cultivated very successfully in hanging pots. The principal hardy species is the *J. officinalis*, which is not

unfrequent in our gardens, though not so common as in Great Britain. It is a fine ornament against the wall of a house, a porch or verandah, which it will cover in a very short time. Or if planted against trelliswork, or against the framework of a bower, it will soon afford an agreeable shade, and produce its long, graceful deep-green shoots, so as to hang down to the ground all around it, and require to be separated, like a curtain, by a person entering. Though the shoots of this plant are green, the leaves are rather pale and small, so that the mass of verdure produced by it is not very deep; but it looks finely when covered with flowers. Some of the tender species, as the *J. azoricum*, with white and fragrant flowers, would make excellent hanging plants.

Michella repens.—Checkerberry. It is surprising that no notice has ever been taken of this plant, for cultivation in hanging pots. This is a very beautiful trailing evergreen, bearing its small leaves very closely, so as to produce a considerable mass of foliage. At the same time it is not so luxuriant as to cause the cultivator much trouble by its rapid and excessive growth. The michella is found in our woods, growing always in shady places, and spreading luxuriantly over the knolls of turf and mosses that abound particularly in pine woods. The flowers are not very conspicuous, but the fruit is of a very bright scarlet, and must be very ornamental, covering the plant, when hanging from a basket, with a profusion of beautiful gems.

A very ordinary plant, which might, under certain circumstances, be chosen for a hanging pot, is the English stone-crop. (*Sedum Anglicum*.) It requires no extraordinary attention, and this is its particular recommendation, as it may be cultivated under circumstances that might cause it to be occasionally neglected. It flowers in midsummer, bearing a very pretty minute white flower. The foliage is succulent and fleshy, of a light-green color, and bears both an excess of moisture and dryness. There are several other sedums which are well adapted to the same purpose.

The Ice plant, (*Mesembryanthemum glaciale*), was in former years a great favorite for a hanging window plant. It takes its name from the little globes of transparent fluid that glis-

ten over the leaves and stems and plants, resembling little drops of frozen dew. Plants of this genus are very tender, but they flourish in pots with a moderate amount of care and attention. They should be provided with sandy or gravelly soil, which, for the larger species, may be mixed with loam. A poor soil, however, is in all cases, favorable to the brilliant coloring of the flowers, though it causes the leaves and stems to be small and weak. Like the cactus, these plants require to be dried up once in the year, and kept some weeks in a dormant state. When it is desirable that they should flower, they must be abundantly watered.

The Musk plant, (*Mimulus moschatus*,) was hardly less of a favorite, several years ago, than the ice plant. It has the great advantage of not requiring much light, and of thriving in the shade and in windows. It may be propagated by dividing the roots or by cuttings, planted in common light garden mould. They must be watered freely till they have taken root. They must always be well supplied with water, and kept in the shade, as sunshine is apt to kill them and weaken their scent. Mrs. Loudon advises that the pots should be constantly standing in saucers full of water. The mimulus cannot properly be considered a trailer; but it produces a great profusion of foliage, and covers a hanging pot nearly as well as any of the trailing plants.

The Orchideous Epiphytes, though rather too difficult to be raised under ordinary care and treatment, deserve to be mentioned. These plants in their native countries are found hanging from the branches of trees, some with their roots exposed to the air, others with their roots embedded in moss. But all the species, with proper treatment in other respects, will flourish in baskets filled with moss, and freely supplied with moisture. It is chiefly the *Stanhopeas* and *Catasetums* that are grown in this manner, or in pots hung from the window sills. The flowers proceed from the roots and hang downwards. They all require great heat and moisture, and can, therefore, seldom be successfully cultivated except in a hothouse.

POMOLOGICAL GOSSIP.

WILSON'S ALBANY, AND OTHER STRAWBERRIES.—Although this variety has been given up by the “strawberry king,” which we suppose is equivalent to its being “nowhere,” yet we see occasionally big stories of its remarkable qualities. These, however, so often originate with those who never cultivated the best kinds, or had no standard variety to judge by, that they are of no more value than that of the “strawberry king,” who once grew it exclusively, and puffed it as the only kind worth cultivating.

The Germantown Telegraph, generally pretty correct in its estimate of fruits, pronounces so truthful a statement of the Wilson's Albany, that we think its remarks well worthy of a record in our pages. These comments were suggested by the remarkable report of the strawberry discussion at the Meeting of the Fruit Growers' Society of Western New York, reported in our last number:—

To the question, “What is the best method of cultivating the strawberry?” scarcely two of those experienced cultivators answered alike. Some went so far as to say that only a single crop should be raised from a bed; or, in other words, the beds should be renewed every year! Now, we have obtained magnificent Hovey's Seedlings for six years, and the last year the berries were large and fine, as much so as in the second year. The Wilson ran out the second year, whereupon we ran it off the premises totally, never to come back again. If anybody were to surreptitiously infest our ground with a bed of this *so called fruit*, he would be immediately prosecuted, if discovered.

As to planting, and other things connected with this fruit, nothing was said of any practical value.

On the direct question, “What is the most profitable variety for market?” scarcely one answered the question broadly, but seemed desirous to evade it. Nearly all, however, thought the Wilson was the most productive, and seemed to infer that as the *public taste* was no taste at all, size and cheapness carried the day in the public market. A new seedling, called Russell's, was said to be as “large as a potato,” extremely

productive, and superior in quality (which it could easily be, and not be much after all) to the Wilson. The Triomphe de Gand was also put into the list of recommended market varieties.

NEW STRAWBERRIES.—In the multiplicity of new varieties which are yearly produced, the question arises, how shall we decide upon their relative merits, so as to introduce the most meritorious; a decision must be made, or the amateur, especially, must purchase all, and prove them himself. This has occurred to us as an important question, for we are at a loss to reconcile the statements of the cultivators who raise them, and the writers who chronicle their qualities.

Our friend, W. S. Carpenter of New York, a good cultivator of the strawberry, writes to the Gardeners' Monthly as follows, in regard to Boyden's Seedling:—"Have you heard of the great strawberry? I refer to Boyden's Seedling. It was exhibited at the great show of the American Agriculturalist, on June 18; fifteen weighed one pound, and Mr. Boyden brought a half bushel of these monstrous berries, and a plant with about fifty monster berries on it. It was considered by all that this berry beat the world." Now, fifteen berries to the pound is large; there is no doubt about this. Yet, we cannot see how Mr. Carpenter should be at all surprised, as it is very much smaller than our older kinds. In the same number of the Monthly, Mr. Carpenter states that the berries of the Austin Seedling weighed 1½ ounces each, this season, which is half as large again as the Boyden, namely, only about ten berries to the pound. We began to think the Boyden was in reality something very large and extraordinary, and that a great gain had been made, until we read this, which, together with the fact, that the Boyden has been purchased to distribute on the gift system, dispelled our ideas of its wonderful qualities. The Tribune and Agriculturalist strawberry will undoubtedly monopolize public attention, and drive all others out of cultivation, especially as they are offered for sale at one dollar per plant, and a year's subscription to a newspaper thrown into the bargain.

THE WISCONSIN SEEDLING STRAWBERRY.—This is the name of a new variety, raised by Hon. Emil Rothe of Watertown,

from the *Triomphe de Gand*, the *Austrian Giant*, and a very splendid French variety. It is very prolific. Two years' old plants yield from 150 to 200 berries; 287 have been counted on a single stalk. (!) When properly treated, and kept free from runners, it is sure to bear during the whole of the months of June, July, and August. Fruit very large, some berries measuring $5\frac{3}{4}$ inches in circumference, and $1\frac{1}{2}$ inches in diameter. Flesh of the berry white; flavor delicious pine apple-like subacid. Plant hardy, enduring the cold of winter, if left unprotected.

This splendid variety will be distributed to the subscribers to the *Wisconsin Farmer*.

PISTILLATE AND STAMINATE STRAWBERRY PLANTS.—Dr. Lindley, in a late number of the *Gardeners' Chronicle*, notices Mr. W. R. Prince's article on the strawberry, which was published in the *Technologist*, and treats Mr. Prince rather contemptuously for his statement that English botanists have ignored the existence of pistillate plants. That Mr. Prince is entirely correct, and the great Doctor entirely wrong, the concluding paragraph of his criticism will show; it is as follows:—

“Our reason for noticing all this is not for the sake of Mr. W. R. Prince, or his *Scientific Treatise on Horticulture*,” published in 1828, “but to elicit truth. Is it true that some plants of the American strawberries are absolutely female? Is it true that those females are far more productive than our hermaphrodites? If so the fact is worth knowing, and we venture to ask the following question:—Can any of our readers on this side of the Atlantic confirm these statements? If they can we shall be only too happy to publish their replies. We trust, however, that these communications may be authenticated by their names.”

This proves all Mr. Prince stated, viz., that the English botanists know nothing of the sexuality of our American strawberries, which every intelligent cultivator in America well knows, and which Dr. Lindley considers “the fact is worth knowing.” Is there not commendable merit in Mr. Prince in “thinking,” as Dr. Lindley remarks, “more of himself than he does of Englishers,” when the above para-

graph shows that Dr. Lindley, and undoubtedly many other eminent botanists and cultivators, know as little of what has been contributed to our horticultural literature as if we spoke an unknown language. What American horticultural writer is not familiar with everything that is published in Great Britain? But if the above is a specimen, what English horticultural writer, unless we except Mr. Rivers, could have ever heard of an American horticultural magazine, or work on pomology!

To show further the ignorance of English writers, even the Rev. Mr. Radcliffe, a most eminent cultivator of the strawberry, says, in a subsequent paper, when speaking of American strawberries, that he wrote Mr. Prince that Hovey's Seedling was *a bad setter* (!!), and he told him to plant "by its side a strong hermaphrodite;" and Mr. Radcliffe says, that "unless I am better instructed *I shall not believe that a pistillate requires for fruiting either staminate or hermaphrodite plants!*" With such evidence as this from so intelligent a man, we fear Dr. Lindley will never be "only too happy" to find any of his readers on "this side of the Atlantic" confirm Mr. Prince's argument. In fact, Mr. Radcliffe states that the American sorts are discarded. Singular is the fact that Americans discard English strawberries, always poor and watery, and Englishmen discard American sorts, always sour and pasty, (pasty in the strawberry being synonymous with buttery in the pear.) The truth is, the English climate has not sun and clear air enough to ripen an American strawberry, or perfect their own kinds, beyond a cold watery sloppy juice. We never saw the first English strawberry that would be eaten when our American varieties could be had.

PEACHES WITHOUT GLASS.

BY JAMES WEED, MUSCATINE, IOWA.

IN our former articles we described two modes of constructing shutters for protecting trees, which we tried last winter,

except that the frames covered with lumber, instead of matched flooring, were covered with rough boards, which could not readily be made tight, and the six inch space between the double covering was filled with saw dust—requiring a two horse wagon load to each shutter, 12×12 feet square.

The straw frames were put up over a seedling tree, five or six years old, which had never shown a blossom.

We were disappointed in the efficiency of the straw coverings in modifying extremes of temperature,—the internal temperature seldom varying more than two or three degrees from that outside, on the occurrence of sudden changes; and on the morning of the 3d of February the difference was less than one degree. This difference, however, in connection with the shade and shelter afforded, or a greater hardiness of the buds of the seedling tree, saved about two thirds of the buds from being killed. The outside temperature of 12° below zero killed nearly all the buds on seedling trees, except in some very favorable locations, where a tolerable crop will be realized. We have some thirty budded trees of choice varieties which were planted seven years ago on the southeast side of a seven feet close board fence, immediately at the foot of a timbered bluff, with a drain four feet deep at the back of the fence. These trees, which never produced a blossom until last spring, have this year an average product of about one half of a peach to a tree.

The above experiment with straw frames with a thermometer inside weakened greatly our confidence in the common practice of “strawing up” trees and shrubs for winter protection, so far as temperature is concerned;—shade and shelter is thus provided, which in some instances may be all that is required, but it will not answer in extreme emergencies.

The double board shutters inclosing a six inch stratum of sawdust saved every bud, with an internal temperature of 24° on the side of safety—assuming 12° below zero to be the least degree of cold which kills the buds of our best varieties of the peach.

In this form of structure the only difficulty encountered was in the great weight of the shutters, which impeded the opening and closing the shutters with desirable facility, and

absolutely precluded giving the shutters as great a degree of inclination as in some cases might be desirable.

By the use of a rolling hinge, or rocker, the weight of the shutter is constantly balanced, in whatever position it may be placed, in opening or shutting, the structure being also much simplified, and its cost diminished. This arrangement enables us to render the straw frames perfectly efficient by closely packing the central space with leaves, dry swamp moss, hay straw, wood shavings, or other similar materials, and we can use much greater lengths of frames, making fewer joints necessary. These are regarded as important practical advantages in this system of protection, which we believe is destined to supply every northern city with the choicest peaches, apricots, and nectarines; and, by a simple modification, which will add to the advantages of *perfectly reliable protection and shelter an easy and perfect control and regulation of the requisite amount of moisture*, will compete successfully with the cold grapery, and thus give a new impetus to the culture of the foreign grape.

Our Early Yorks, which are now finely coloring and swelling their fruit preparatory to ripening, verify our enthusiasm, which we trust will be pardoned, and when fully ripened will be appreciated as *the first fruits of our favorite enterprise*.

NEW GRAPES.

BY SAMUEL JORDAN, WEST RANDOLPH.

WILL you receive a few words, from an old subscriber, in favor of two of the new grapes, the Golden Hamburgh, and Muscat Hamburgh? Having fruited these three years I am much pleased with them, and think all who may cultivate them will be equally gratified. The Golden Hamburgh is not so strong a grower as the Muscat, but it shows an abundance of fruit, and sets its berries well, is a week earlier than the Black Hamburgh, and is well worthy of its name of Golden Hamburgh. The Muscat Hamburgh is a fine strong grower, shows an abundance of fruit, and has had the charac-

ter of not setting its berries well ; but I find no difficulty ; it sets with me as well as the Old Black Hamburg. True, it is somewhat uneven in the size of the berries, but, as the vine becomes older, the berries are more even. The first season, with me, it was very uneven, the next it was better, and now, this the third year, it is quite fine, and is a splendid grape. It is the earliest of the ten varieties in the house. These varieties are, Black Prince, Old Black Hamburg, Wilmot's No. 16, White Nice, Victoria Hamburg, Muscat Hamburg, White Frontignan, Golden Hamburg, Muscat of Alexandria, and Grizzly Frontignan.

We are pleased to record so good an account of these new grapes, about which much has been said, sometimes to the prejudice of the respective sorts. Mr. Jordan is an experienced cultivator, and has proved his skill by the award of the first premium by the Massachusetts Horticultural Society for his specimens of grapes, including the two kinds under notice. Indeed, he is the only one who has yet exhibited them in fine condition.

The Golden Hamburg requires to be well established before allowing it to fruit. Overbearing young vines is one cause of its not coming forward so strong as other varieties. We have noticed the unevenness of the berries of the Muscat Hamburg, but, as Mr. Jordan says, this has nearly disappeared with the strength of the vines. It is the only real Muscat flavored black grape we possess, notwithstanding such have been described in Catalogues and pomological books, for a long period. It is a great acquisition to the grapery.—ED.

FLORICULTURAL NOTICES.

THE PÆONIES.—A correspondent in Baltimore, W. C. Wilson, Esq., thus alludes to this superb class of plants:—I would like to see descriptions of the best of your new pæonies. This superb flower has not received the attention in this country, nor in England, that it merits. A few months

since, on looking over the indexes of the last ten volumes of the *London Florist*, the word *pæony* does not occur. I wrote to the editor, asking for some account of its cultivation in England, and also for information of those much lauded varieties, brought home by Mr. Fortune, from China. Some writer in an English periodical, a few years ago, characterized these last as mythical.—Respectfully yours, W. C. WILSON.
August 20.

PYRETHRUMS.—This flower has recently received considerable attention, and has begun to yield to the skill of cultivators. Mr. Salter, nurseryman, near London, recently announced an exhibition of *Pyrethrums*, mostly seedlings of his own, and in reference thereto the *Gardeners' Chronicle* has the following interesting remarks:—

“The race of *Pyrethrums* to which this announcement referred, and which comes from the stock indifferently called *Pyrethrum Carneum* or *Roseum*, is a new garden flower, which promises to rival, if it does not excel, such subjects as the *Phlox* and the *Pentstemon*, having moreover the advantage of blooming at an earlier period.

The parent plant is tolerably well-known as a hardy herbaceous perennial, with finely cut almost fern-like leaves, and large daisy-shaped flower-heads with a broad spreading ray of pale pink or rose color. That it should have given rise to a new race of ornamental border plants with double “flowers” no one would have dreamed a few years since; and yet as its sisters, the *Chrysanthemum*, and the *Feverfew*, have shown themselves to be sportive maidens, ever and anon putting on double faces, it is not to be much wondered at that sister *Carneum* should follow in their wake.

The first change—a sport in color—as we learn from Mr. Salter, took place about 1853; and for following this up cultivators are indebted to the indefatigable hybridizer, the late M. Themistère. In 1858 the first semi-double *Anemone*-flowered variety was obtained, since which the progress has been so rapid that at the present time, what with singles, semi-doubles, reflexed doubles, and *Anemones*, there are something like fifty or sixty named varieties, amongst which

there occurs a considerable amount of diversity of color. Here then is a new subject rapidly developing into what is called a florist's flower.

This being so, it behooves us, while the character of the flower is, as it were, being moulded to our desires, to determine what is the most perfect character that can be given to it. It seems to us that the nearly-related show *Chrysanthemum* will afford the requisite model. Setting aside the mere singles and semi-doubles as border flowers—and very showy border flowers too they are—we have remaining the Anemones and reflexed doubles as the highest points severally attained in two different directions. From these must be moulded more perfect Anemones and more perfect doubles, the latter being the more important class of the two. At present this latter group yields us only varieties with reflexed florets. We must go on seeding and selecting from these till we get the florets arranged with perfect regularity, and the flower heads nearly globular in form, not less than two-thirds of a ball being accepted as perfection. From these in due time we shall no doubt obtain sports with incurved florets, and then these must be seeded, selected, and perfected in the same way. So will these *Pyrethrums*, viewed as florists' flowers, be rapidly converted into an interesting and novel group of early summer-blooming pet plants.

But they are not flowers for florists only. They are gay, showy, ornamental subjects for the garden, flowering abundantly from the middle of May to the end of June, and again, less vigorously from side shoots in August and September. It so happens that the singles and semi-doubles, from being taller in growth are the more suitable for the least pretentious positions, as shrubbery borders and such-like places, while the choicer double sorts are better fitted for beds and the more dressy parts of the garden. The average height of the double varieties is from twelve to eighteen inches, that of the single kinds a couple of feet.

This showy *Pyrethrum* has one especial good quality, namely, that it will flourish almost anywhere. For high cultivation, however, the most suitable treatment is to plant them in good rich loamy earth, in an open situation; and

being herbaceous they can be propagated with every facility by division. This, according to Mr. Salter's experience, is best done in February or March, though it may be effected in July after the first flowering is over. Seeds may be sown either in August or in early spring, and the seedlings, if duly encouraged, generally flower the first year."

Mr. Salter's collection contained upwards of thirty varieties, ten of which were his own seedlings. These comprise white, blush, rose, lilac, dark red, red purple, rose carmine, bronzy rose, rosy buff, &c.; some of them ranunculus formed. The names are added, but these will so soon give place to others that we omit them, except a few, which, from the description, appear extra, viz.:—*Delicateuse*, French white; *Herman Stinger*, rose; *Lycias*; *Mr. Dix*, very large; *Princess Alexandria*, large, pure white; *Roseum album*, rose, with white centre, and *Striatum plenum*, rose, flaked with white.

In our last volume we noticed the *Pyrethrums*, and mentioned the production of several seedlings in our collection, which were very handsome, but not being double enough to please us they were not named. We hope our cultivators will turn their attention to this flower, and not wait for the European gardens to supply us with varieties. One thing is certain, that even ordinary mixtures of seed, which may be had of our seedsmen, will produce a bed of gay looking flowers, even if they do not come up to the standard of the florist.

694. *IMPATIENS BICOLOR*, *Hook, fil.* TWO COLORED BALSAM.
(*Balsamineæ.*) Fernando.

A greenhouse plant; growing one foot high; with white and purple flowers; appearing in winter; increased by cuttings; grown in light peaty soil. *Bot. Mag.*, 1863, pl. 5366.

Another of the pretty tribe of greenhouse Balsams, similar in general habit to *I. Jerdonæ*, but different in color; and probably more easy of culture. It was gathered at an altitude of 4000 feet, on the celebrated peak in the small island of Fernando, by Mr. Gustav Mann, with four other species, and seeds sent to Kew flowered in December last, at just the same period that, two years before, it was found blooming by Mr. Mann. (*Bot. Mag.*, March.)

695. MONOCHÆTUM HUMBOLDTIANUM *Kth.* HUMBOLDT'S MONOCHÆTUM. (Melastomaceæ.) Caraccas.

A greenhouse plant; growing a foot high; with rich red purple flowers; appearing in the autumn; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1863, pl. 5367.

“One of the most lovely of the Melastomaceous tribe, with large, handsome, rich red purple flowers, the leaves bright green, the square stems and calyxes beautifully tinged with livid red.” The plant may be compared to the *Pleroma*, in its habit, and leaves, and also the flowers, except that they are of a fine red purple, instead of a blue purple, and it will form a pretty companion to that superb plant, which should be grown in every collection. (*Bot. Mag.*, March.)

696. WELWITSCHIA MIRABILIS *Hook, fil.* AFRICAN WELWITSCHIA. (Gnetaceæ.) Africa.

This is the wonderful plant which has attracted so much attention the last year or two, and the discovery of which has excited so deep an interest among European botanists, an interest which Sir Wm. Hooker states has never been exceeded or equalled since the discovery of the *RAFFLESIA*. Dr. Frederic Welwitsch, a talented naturalist, was the discoverer, and the account he sent to Dr. Hooker was published in the *Transactions of the Linnean Society*, with superb plates by Mr. Fitch.

Though, from the character of the plant, and the peculiarities of its native climate, cultivators will never be likely to grow it, and it will remain simply a botanical curiosity, yet, a brief account of it cannot fail to be interesting, and we copy from Dr. Hooker's extended notice the following letter from the eminent African traveller, C. J. Anderson, Esq., while resident at Damara Land, Feb. 12, 1862:—

“The plant you inquire about, and which has so much awakened your curiosity, is well known to me. Indeed, it is so peculiar as scarcely to be mistaken, even from the rudest description. It is only found in one single locality, that is as regards Damara Land, which locality is exceedingly circumscribed. It grows moreover in sandy places, and luxuriates when it can find a few stones where to fix its extraordinary tap-root, penetrating often several feet deep, so that it is

indeed a work of labor and patience to extract a single plant. I have been thus occupied more than an hour, and even then I have come away with only a portion of the root. The leaves attain a length of several feet, a small portion at the point only being withered; in other respects they are evergreen; they are straight-grained, and you can tear them from top to bottom without deviating a single line from a straight course. Rain rarely or never falls where this plant exists. I have crossed and recrossed Damara Land, throughout its entire length and breadth, but only found the plant growing on that desperately arid flat, stretching far and wide, about Waalvisch Bay, or between the 22d and 23d degrees of south latitude. It is most common about the lower course of the river Swakop. But I feel my description is very inadequate to the subject, and shall endeavor therefore to procure the plant itself, and forward it at an early date to England. Indeed, I would have sent plants years ago, had I not been under the impression that you had already specimens of it, for I assisted Mr. Wollaston once to excavate a couple, which I thought he purposed presenting to the Kew Gardens. I know that the specimens were received at the Botanical Gardens at Cape Town, for I saw them there only the other day, pitched away among some rubbish. No one seemed to take the slightest notice of them, which rather surprised me, since the plant cannot well escape even the dullest eye, it is so singular."

It is difficult to convey a correct idea of the plant from a description; but we endeavor to do so from that supplied by Dr. Hooker. It is a woody trunk, said to attain the age of a hundred years, with an obconic trunk about two feet long, of which only a few inches are above the soil, presenting a flat two lobed dense mass, sometimes attaining the size of five feet in diameter, and looking like a round table. The surface, when full grown, is hard and cracked over the whole surface, much like a crust of brown bread. The lower part forms a stout *tap root*, buried in the soil. From deep grooves in the circumference of the top two enormous leaves are given off, each six feet long when full grown, one corresponding to each lobe of the trunk; these are stout, very

leathery, and split to the base into innumerable thongs, that lie upon the soil. They are present from the earliest condition of the plants, are persistent and replaced by no others. From the base of these leaves spring stout, much branched cymes, nearly a foot high, bearing small erect scarlet cones, which eventually become oblong, and attain the size of the common spruce fir. The scales of the cones are very closely imbricated, and contain solitary flowers, and mature a seed in each scale. Every part of the plant exudes a transparent gum.

Dr. Hooker pronounces the *Welwitschia* a dycolyledonous plant, belonging to the gymnospermous group of that class, and having a close affinity with *Ephedra* and *Gnetum*.

The scarlet cones have a magnificent effect, and if there was any hope of bringing it under cultivation it would be a superb thing. (*Bot. Mag.*, April.)

697. *CÆLOGYNE LAGENARIA Lindl.* FLASK-SHAPED CÆLOGYNE.
(Orchideæ.) Himalaya.

A stove orchid; growing four inches high; with crimson purple and white flowers. *Bot. Mag.*, May, 1853, pl. 5370.

An exquisite little plant, with peculiar shaped pseudo bulbs, and solitary flowers; the sepals and petals rose color, spreading, and the lip large, crisped at the margin, white, mottled with yellow and deep purple. The secret of its culture lies in keeping the plants cool and dry while at rest, and forcing them with heat, moisture, and light, as long as they are inclined to grow." (*Bot. Mag.*, April.)

698. *ENCEPHALARTUS HORRIDUS*, VAR. *TRISPINOSA*. THREE-TOOTHED *ENCEPHALARTUS*. (Cycadeæ.)

One of the Cycads, with long pinnate spiry leaves, and a centre cone six or more inches long. *Bot. Mag.*, 1853, pl. 5371.

Very ornamental, from its long, green pinnate leaves, somewhat like the *Cycas revoluta* or *Sago Palm* as often called. (*Bot. Mag.*, April.)

699. *CODONOPSIS CORDATA Haskl.* HEART-LEAVED *CODONOPSIS*. (Campanulaceæ.) Java.

A running plant; growing six feet high; with greenish white flowers; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1853, pl. 5372.

A very graceful climbing plant, with campanulate flowers, an inch or more in diameter, appearing at the axils of the

leaves, and of a pale color. It is a native of the moist woods of Java, at high altitudes on the mountains. (*Bot. Mag.*, April.)

700. *LYCIOPLESIMUM PUBIFLORUM Griseb.* DROOPING-FLOWERED
LYCIOPLESIMUM. (Solanaceæ.) South Chili.

A greenhouse plant; growing two feet high; with deep crimson flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1863, pl. 5373.

“An extremely handsome plant,” with the habit of a *Habrothamnus*, but with larger flowers and produced in racemes at the ends of the pendent shoots. It was introduced by Messrs. Veitch, in whose collection it flowered last spring, in the open ground, against a wall, protected only by a glass moveable frame, showing it to be almost hardy. It will probably prove a decided acquisition. (*Bot. Mag.*, April.)

701. *CYPRIPEDIUM STO'NEI Hook.* MR. STONE'S CYPRIPEDIUM. (Orchidaceæ.) Borneo.

A stove orchid; with white and violet flowers. *Illustration Horticole*, 1863, pl. 355.

This is another of the *Cypripediums*, and one of the most beautiful, the flowers, with the front of the lip, a rich violet. It is from Borneo, and requires a high temperature. (*Ill. Hort.*, March.)

702. *CAMELLIA, BARON DE VRIERE.* Garden Hybrid.

Illustration Horticole, 1863, pl. 356.

A fine variety, raised by M. Verschaffelt. The color is clear rose crimson, becoming lighter towards the centre, with a few indistinct stripes of pale rose. The flower is imbricated to the centre. The habit is good, and it flowers freely. (*Ill. Hort.*, April.)

703. *SYRINGA, VAR. AMBROSE VERSCHAFFELT.* Garden Hybrid.

Illustration Horticole, 1863, pl. 357.

This is another of the Belgian lilacs, raised by M. Eckenholtm, who has given great attention to the improvement of the lilac. The flowers are intermediate in color, between the common and the white variety, being of a very pale shade of lavender. As a variety for massing it will form a pretty contrast with numerous kinds we already possess. (*Ill. Hort.*, April.)

704. *DIPLACUS GLUTINOSUS*. New varieties.

Illustration Horticole, 1863, pl. 559.

The *Diplacus aurantiacus* was a few years ago common in our collections; but its want of brilliancy prevented it from becoming popular. A French cultivator has taken in hand the improvement of this plant, and has produced four varieties, between *aurantiacus*, *puniceus*, and *glutinosus*. These are named *Godronii*, *Verschaffeltii*, and *splendidus*. The first is a very large flower, deep scarlet, with orange centre. The second is smaller, but almost a maroon, with yellow centre, and the third is orange colored, with round yellow centre. As bedding plants they are very pretty, and their new colors will render them very ornamental. (*Ill. Hort.*, April.)

705. *CALADIUM LOWII Hort.* MR. LOW'S *CALADIUM*. (*Ara-
ceæ.*) Borneo.

A hothouse plant; with variegated foliage. Illustration Horticole. 1863, pl. 560.

This is one of the plants, of which it is uncertain whether they belong to the *Caladiums* or *Alocasias*. It has very large dark, glossy, bronzy leaves, with a metallic lustre, and conspicuous, yellowish green nerves, bordered with a paler tint, the secondary nerves, at their connection with main ones, being of the same color. The under side is of a bronzy copper hue, shining with conspicuous whitish nerves. It is a very superb plant. (*Ill. Hort.*, April.)

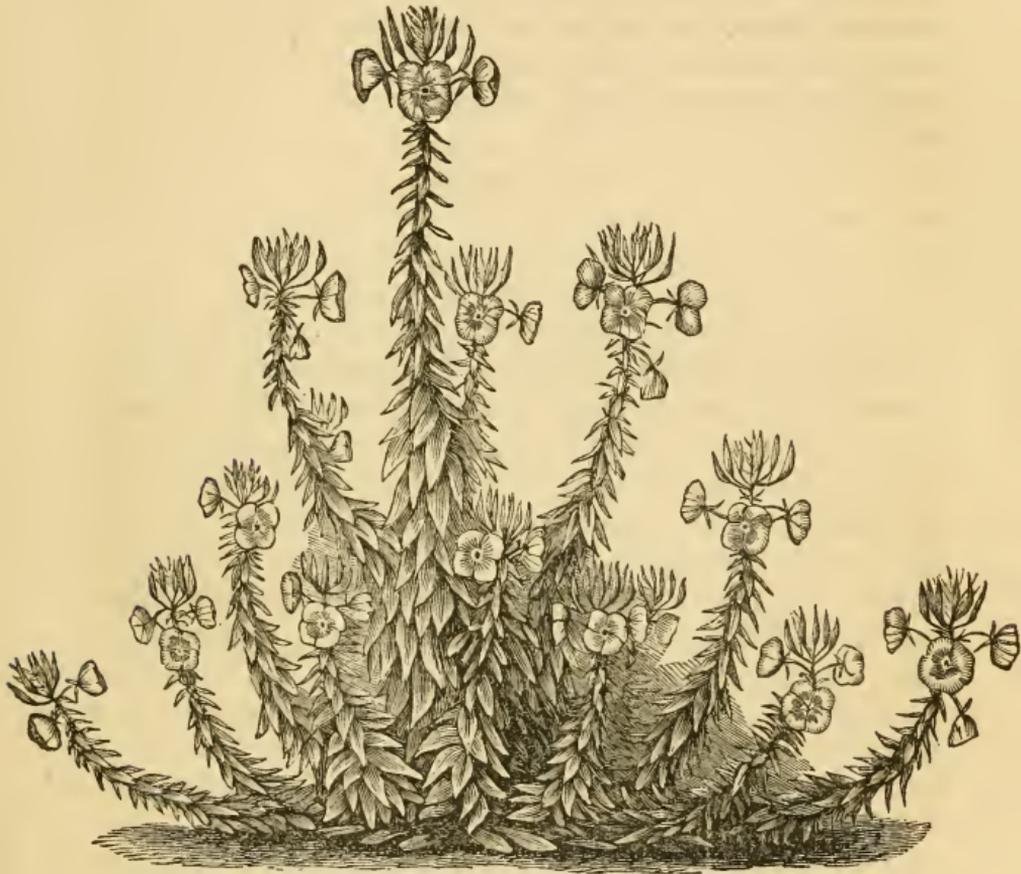
CENOTHERA LAMARKIANA.

BY THE EDITOR.

MANY of the *Cenotheras* are beautiful flowering plants, and contribute much to the decoration of our gardens. The perennial sorts, several of which we noticed in our last volume, are highly ornamental, and the annual varieties very showy; most of them have yellow flowers, and their stately habit, gay colors, and sweet odor, give additional attractiveness to the flower garden.

A greater part of the species are natives of North America, and grow abundantly in the Southwest, spangling the prairies with their golden flowers.

Enothera Lamarkiana (FIG. 17) is a Texan species, recently introduced to notice, the seeds having been sent to London three or four years ago, where the plants at once



17. *ENOThERA LAMARKIANA.*

attracted attention, and were supposed to be entirely new; it appears, however, that some French botanist discovered it nearly forty years ago, but failed to secure seeds or plants.

Our engraving gives a good idea of the habit of the plant, which is similar to the old Evening Primrose, though more branchy and taller in growth. The flowers are so large that our page is not large enough to contain an engraving of the full size; measuring, as they do, more than four inches in

diameter. These are of the deepest golden yellow, and are displayed in clusters of six or eight, or more, open at once, on the long spike which terminates each branch.

It is strictly a biennial plant, but flowers abundantly treated as an annual, sowing the seeds in May, when it blooms all the autumn. Sown later, in June or July, the plants grow luxuriantly, and if protected in a frame in winter, and planted out in spring, form large specimens, which flower abundantly all the season. It is a rich acquisition, and worthy a place in every collection.

GARDEN GOSSIP.

RESIDENCE OF WM. GRAY, JR., ROXBURY.—It is highly gratifying to record the progress of horticulture in our immediate vicinity, as evidenced by the increase of villa residences, the formation of beautiful grounds, and the erection of graperies and orchard-houses. While some of the old places, once noted for their gardens, through the changes that ever take place, have passed into other hands, or the taste or interests of the possessors have not kept them up to their former condition, it is gratifying to see the younger generation not only emulating that which has passed away, but often excelling them in their genuine love of gardens and gardening. Such, at least, were our reflections after a recent visit to the new and beautiful grounds of Mr. Gray, situated on Grove Hall Avenue in Roxbury.

Within three miles of the city, yet Mr. Gray's residence has all the seclusion and quiet of the country. The house is approached by an avenue leading from Eustis Street, and the grounds slope of to the west into a ravine through which a stream of water tumbles over the rocky bed, and a dense forest with its underbrush dispels the idea of the nearness of the neighboring city with its din and traffic. This beautiful slope will form the lawn front. To the east, the ground slopes again, and it is here the garden has been made, which has occupied so much of Mr. Gray's time that the ornamental

part has been neglected. His great interest is in orchard-house culture, and the erection of four graperies and fruit-tree houses, and the formation of a fine garden, has been the labor of four years. The house is a fine structure in the rural style, built of Roxbury stone.

To say that Mr. Gray has been very successful would hardly be enough; an amateur wholly, with only a little leisure to devote to his grounds, he has managed them himself, and his collection of trees in pots surpasses any we have ever seen. The crop of peaches had mostly been gathered, but what remained were large and fine, and the nectarines remarkably beautiful; but it was the fine bushy form and general health of all the trees that pleased us.

Mr. Gray has four houses, viz.: two cold graperies, each 66 feet long, and about 24 feet wide; another warm grapery, 56 feet long and 16 feet wide; and a forcing grapehouse, 75 feet long and 6 feet wide, inside. This latter is a very complete house of the kind and rather novel in construction and form. The back wall is of brick, pigeon-holed, through which the air is admitted from ventilators on the top. The roof is curvilinear, built of iron, and glazed with large glass, the small iron bars, which are comparatively few in number, rendering it almost as light as the open air. This house is heated by a steam apparatus of the most perfect kind, and of ample power to maintain a good temperature in the coldest weather, as it is Mr. Gray's intention to start his grape vines in November. The vines for this purpose are all grown in boxes about thirteen inches square and thirteen deep, and occupy a row along the whole front, the canes being trained up the roof and now reach the top, though most of them were from eyes planted in March. The wood is large and plump, and each vine will be headed in to the length of about five feet. One of the steam pipes runs under the floor, which is laid with flag stones, and a genial bottom heat will thus be obtained. Altogether, the house is a beautiful one, and will, we think, be admirably suited to the kind of culture intended to be followed by Mr. Gray. Tanks for manure water, for watering the grapes, are fitted up with pipes leading into the house, convenient for use.

The warm grapery was filled with grapes in boxes, raised last year, and the crop, of which only a few bunches remain, was large and excellent, quite up to Mr. Gray's expectations. These vines will be cut down and a new cane grown up, when they will be ready for another crop. We were pleased to see that Mr. Gray does not confine himself to the old grapes, as good as we know them to be, but he is trying the new ones, the only way to ascertain their merit. We noticed among these the Perle Imperial, Fredrickton, Caillaba, Noir d'Espagne, Chasselas Duhamel, Le Mamelon, Duc de Malakoff, and others. The Golden Hamburg has borne a fine crop of superb grapes, and among the many young vines for fruiting next year, we saw the Muscat Hamburg, Buckland Sweetwater, Bowood Muscat, &c. &c.

The peach trees, for fruiting next year, had not yet been shifted into their fruiting pots, but they were elegant trees, branched to within six inches of the ground, compact, bushy, short-jointed, and just such trees as every cultivator ought to produce instead of the leggy specimens generally seen. A tree of the Lombard plum, four feet high, was completely covered with fruit, and several apricots were making fine wood.

In the garden, a portion of which was added this year, and the ground formerly low wholly filled up, we noticed one of the most vigorous and healthy plantations of strawberries, comprising La Constante, Triomphe de Gand, Hovey's Seedling, Victoria, Empress Eugenie, Marguerite, and others, and from the vigor of the vines we anticipate a remarkable crop. The rows were put out two and a half feet apart, and each plant allowed to make only two or three runners; these were laid in about six inches from the old plants, and all the rest clipped off; not a weed was to be seen, and a more promising plantation we never saw. We shall be disappointed if Mr. Gray does not gather some remarkable specimens of these fine varieties.

We chronicle these achievements because we wish our cultivators to know what is being done in grape and fruit tree culture in pots, and because we like to record this success, that our readers may appreciate the advice of one who has given so much attention to this particular department, for we

hope, in the course of another volume, to induce Mr. Gray to contribute something of his experience in our pages; at least we have a promise, which we doubt not he will cheerfully perform.

GARDEN OF JAMES JACKSON, SOUTH BOSTON.—Few amateurs in our neighborhood comprise within the limits of their grounds, so many interesting things as Mr. Jackson. We may see in hundreds of places our showy and popular plants, but it is only here that the oft-neglected but not less beautiful denizens of our pastures and woodlands find a congenial home. It is not that which is “far fetched and dear bought” that can alone claim Mr. Jackson’s care; these, or at least such as are really attractive, are always sure to find a place, but it is our own New England flowers that have a prominent position. From the tiny *Linnæa*, gathered on alpine heights, and the lovely May-flower (*Epigæa*) which clothes the hillsides of our eastern coast, to the brilliant Golden-rods and showy asters of the fields and pastures, and the flaunting lily of the meadow, may be seen in their proper season most of the ornamental or interesting of our native plants. Some, once abundant, but long ago driven from their old habitats near the city by the spade and the plough are now only found in remote localities, and others always rare, have been brought from their isolated haunts. Many of them, almost lost as it were, under Mr. Jackson’s fostering care grow in their native perfection, and afford great delight to all who love and appreciate our wild flowers.

In a brief visit to Mr. Jackson’s garden recently, we were highly pleased to see his continued interest in all these plants; some years ago, when his grounds were confined to a few hundred feet in the pent up city, he had it filled with everything beautiful; and now, when he thought he had “room and verge” enough, with nearly an acre, he finds after four or five years that his room is limited, and some of our native plants, which will not bear constant pushing and crowding, begin to show the want of space. Well could we sympathize with Mr. Jackson as he said he wanted more space, but where to begin to cut away was the question, when every specimen was one of more or less interest. To one who has gathered

together all the fine trees and shrubs, planted and reared them till they begin to crowd, and either their loss or their ruin must be the result, it is hard to make up the mind to the sacrifice.

Among the plants which we noticed, and but few of which we have room to enumerate, were the *Actæa alba* and *rubra*, both ornamental from their spikes of showy berries which succeed the flowers; the *alba* is quite rare, and very conspicuous from its large white fruit; *Vernonia Novaboracensis*, very showy, with purplish flowers; *Geranium sanguineum Lancastriense* is a fine plant, forming a dense tuft of green leaves and pretty lilac purple flowers, continuing in bloom all summer; *Spikenard* (*Aralia racemosa*) is a very pretty thing; *Trillium grandiflorum* was perfecting its pods of seed; *Sarguisorba canadensis* very attractive, with long spikes of white flowers; *Lobelia syphilitica* has naturalized itself so well that it springs up in abundance and was very showy with its spikes of blue flowers; *Ageratum ageratoides*, with white flowers, handsome and very little grown. Twining over trees and shrubs, the beautiful *Apios tuberosa* luxuriated as in its native habitat; it is remarkable that this plant, far more elegant than most climbers, is not introduced into every flower garden; its dense racemes of chocolate-colored blossoms are almost as fragrant as *mignonette*, and for dressing a vase its slender branches, studded with flowers, are admirably suited. The common Bindweed (*Calystegia sepium*) was also twining up the trees, and very showy with its snow-white corols; but for its tendency to insinuate itself where it is not wanted, we should deem it one of the best of climbing plants. Dr. Bigelow, in his *Plants of Boston*, calls it what it truly is, "one of the finest of the genus." *Rhododendron maxima*, *Kalmia*, *Azalea nudiflora* and *viscosa*, *Ledum*, and the delicate *Menziesia*, were all as flourishing as in their native haunts. The white whortleberry, and the cut-leaved blackberry, the latter with clusters of its large and excellent fruit. Of other native shrubs, were fine specimens of *Viburnum Lentago* and *lantanoïdes*, *Sambucus pubescens*, *Clethra*, *Hypericum Kalmianum*, &c. Also, in fine health, the rare *Arctostaphylos*, *Uva Ursi* (bearberry), *Vaccinium vitis idæa* (cowberry), *Empetrum nigrum*

(crowberry), *Gaultheria procumbens* (partridge berry), and in a well prepared spot Mr. Jackson is trying the White Mountain treasures, *Rhododendron lapponicum*, and other alpine plants, gathered in June. They all look well.

But space would fail us to enumerate the numerous plants gathered here; the above are sufficient to show Mr. Jackson's fondness for our own plants. This, however, does not cause him to neglect exotics; on the contrary, it has only made him more particular in his selections, choosing only the most distinct. Thus we found all the best verbenas, gladioli, phloxes, and other florist's flowers, scattered about in profusion. Mr. Jackson has also raised some good verbenas, and now has one or two which we think well deserving a name.

In his small greenhouse we found many nice plants, among them achimenes, gloxinias, &c. The house was intended mainly for roses, which are planted in the ground, but like all amateur collections, the constant accumulation of novelties necessitated the crowding of it in winter with plants.

We should add that Mr. Jackson's grounds are at the extreme point of South Boston, within ten yards of the beach, and the view from the house is extensive and beautiful, embracing the islands in the harbor, and the bay studded with sails. The southwest winds sweep across the water, and occasionally injure the plants, but beyond this they thrive with great vigor. The grounds were all made by carting upon the sandy beach two feet of good loam; this was only four or five years ago, and now the pear and apple trees are fifteen feet high and full of fruit.

General Notices.

STRAWBERRIES IN ENGLAND.—A writer in the *Gardeners' Chronicle* gives an account of his visit to Yarm, Yorkshire, the garden of the late Mr. Nicholson, who had a large collection of strawberries, and produced several seedlings, some of which are well known to our cultivators, Ajax, Ruby, and Ambrosia being three of them, which Mr. N. sent us six or eight years ago; these sorts, however, never succeeded well in this country. Mr.

Nicholson died in 1862, but it appears that Mrs. Nicholson still keeps up the collection of strawberries. As a complete account of the strawberries now popular in England we copy the entire article, contributed by Mr. Wm. Dean, of Shipley:—

“Few beyond the small circle of *Fragarians* know much about Yarm and the late Mr. Nicholson; who, leaving his ordinary calling of a slater, devoted himself to the culture of the strawberry, and spared no pains to collect from all parts of the world as many varieties as possible. France and Belgium, through Mr. Ferdinand Gloede, Mr. De Jonghe, and other friends, furnished all the kinds introduced there, and America also supplied nearly every one of her varieties. Almost all the new kinds brought out in England—the productions of Myatt, Rivers, Cuthill, Turner, Doubleday, Radclyffe, Kitley, Stewart and Neilson, Salter, Roden, and other raisers—soon found their way to Yarm, and Mr. Nicholson contributed many seedlings of his own. The autumn of 1862 gave him a fair promise of proving many of these seedlings in the following spring; but in the meantime death called him away, and on other shoulders has his mantle fallen. Feeling desirous of seeing what advance had been made in this favorite and useful fruit, I recently paid a visit to Yarm, where I saw the vast collection of nearly 400 kinds, including seedlings grown there; Yarm is situated in the north of Yorkshire, not far from Darlington and Bedale, where roses, hollyhocks, and dahlias luxuriate; while at Thirst, a neighboring town, apricots are grown against the cottages and ripen their fruit. No wonder, then, strawberries do well there. Close to Yarm is the small village of Egglecliffe, which was formerly called Eagles Cliff, and here it is that Nicholson’s strawberry garden is the great object of interest. It is really a large orchard or market garden for fruit, the soil of which is stiff and of a marly nature in many places; but not cold and wet. The catalogue of the Yarm strawberries comprises 255 varieties; but nearly 400 kinds, including seedlings on trial, are grown.

Of seedling strawberries of previous years not yet sent out, the best in my opinion is one I was allowed to name after the late Mr. Nicholson’s only child, Alice Nicholson, the fruit of which is conical, flesh yellowish, solid, and luscious, size medium, with a very rich Pine and Hautbois flavor, and a good bearer. I regard this as one of the finest strawberries in the world. The next is Gloria, a good-sized handsome round fruit with a rich piquant Hautbois flavor, a very heavy cropper, and altogether a first-class kind. In this variety we have a decided advance in flavor. Orb is another seedling, a good-sized handsome round fruit, moderately rich and juicy, a good bearer, and those who want a large handsome strawberry will find it here. Yarm is another first-class kind for flavor, medium size, very dark color, rich sugary flavor, and bears well. One other seedling out of the large number which should be introduced is one Mr. Ewebank, the superintendent of the gardens has named Plover, a medium-sized fruit of a rich scarlet color, with very rich luscious Hautbois flavor, and a good bearer.

The most wonderful strawberry for a general crop, and for market gardeners and cottagers, is a Belgian kind named Comte de Zans, which is

described in the Catalogue as "a most tremendous bearer." It certainly is the most extraordinary cropper I have ever seen, and I have had 25 years' experience of strawberries. The plant is of medium growth; fruit conical, often becoming wedge-shaped, very bright color, medium flavor; a good firm berry for travelling, and keeps up a succession. It is just the strawberry for those who grow large quantities for sale. Myatt's Crimson Queen is another valuable kind for the market gardeners, as it is a great cropper, fruit large, dark colored, and of moderately good flavor. The plant is of rather tender habit, and if allowed to stand long in the same ground acquires a stunted habit of growth. Frequent removal suits this kind best. La Constante was very fine, and grows freely. With me it does not grow freely, although it fruits well, but I grow it fully exposed to the sun, whilst at Yarm it seems to be more at home in a shady situation. The fruit is of a medium size, round, handsome, and bright colored. The flavor is very rich and firm, and stands rain well. This strawberry should be in every garden.

Reeves's Eclipse, sent out by Mr. Veitch of Chelsea, I believe, is another first-class kind, although I am afraid the true kind is not grown at Yarm. With me it is identical with the description given by Mr. Radclyffe. At Yarm the fruit instead of being nearly uniform in shape and handsome, was very irregular, and in my opinion not the true kind, still a very heavy cropper. Eclipse is as hardy as Sir Harry, and an excellent dessert fruit, and will travel well. Mr. Radclyffe also speaks well of Marguerite; my observations of this strawberry at Yarm fully bear out all he says. This is another market gardener's strawberry, as it is a heavy cropper, of large size, and a free grower, the fruit firm, juicy, and well flavored; it is really a fine strawberry. So also is Knevitt's Empress Eugénie, large and handsome fruit of a very dark color throughout, very juicy and piquant flavor, a very heavy cropper, of firm, hardy growth, and a capital sort for long journeys. This is a variety for everybody, especially growers for sale. May, of Bedale, sent out Culverwell's Sanspareil two or three years since, and it has proved at Yarm to be a fine and useful variety. It is a good-sized conical-shaped fruit, often sporting in form, of a shining deep crimson color, and the flesh very dark throughout; medium flavor, but a very heavy cropping useful kind. Another of the greatest bearers is a seedling of Nicholson's, already sent out, named Cornucopia; this is evidently a seedling from Filbert Pine, not quite equal in flavor, but a fine handsome fruit, firm and juicy. It is a wonderful cropper, and throws its fruit out from the foliage in masses. Oscar is a moderate cropper, hardy, and of medium flavor, but a useful kind. Myatt's Emily is of the Filbert Pine habit, and Queen style of fruit; very rich flavor, and a good cropper. Mount Vesuvius is a very large handsome fruit, of medium quality, and a good cropper, certainly very fine for exhibition purposes.

British Sovereign is one of the best of Stewart & Neilson's seedlings, and is a very large fruit, rich in flavor, and a strong grower. Choix d'un Connoisseur, sent by Mr. De Jonghe, is of medium size, with a peculiar sugary flavor, very dark throughout, but the seeds are prominent. With

good growth I think it will be a fair variety; it has the habit of Keens' Seedling. Bouhon is, I believe, a seedling of Mr. Gloede's, resembling Sir Charles Napier in growth, but different in shape, firm, very juicy, and sugary. Auguste van Geert is a Belgian variety of medium size, dark in color, solid and juicy, and a heavy cropper. Beauty is one of Nicholson's seedlings, a large wedge-shaped strawberry of good quality, and an abundant cropper. Leopold is a Belgian kind, a medium-sized, dark-colored fruit of fine sugary flavor, but only a moderate cropper. Jeyes's Wonderful is a good useful well-flavored kind, and an enormous cropper, another market gardener's strawberry. Garibaldi is another of Stewart & Neilson's seedlings, and one of the best; a large, handsome fruit, very juicy, and of good flavor—which is slightly acid; a good cropper and vigorous grower. Rifleman and Frogmore Late Pine, two of Turner's last new kinds, both, I think, raised at the Royal Gardens, are promising late sorts for the north; both very late, and therefore most useful; both good croppers and hardy—neither of these were ripe. Frewin's Beauty of England is a large and handsome fruit of good flavor; very juicy and productive. A seedling, marked J, sent by Mr. Gloede, is a large handsome light colored fruit of good flavor, and very productive, and will be a good market variety. La Chalonaise the catalogue describes as a "very large and splendid sort of the British Queen race, but much more hardy and productive." I have grown it for three years and can say the same. It is a large and handsome delicious fruit. Sultane is one of Dr. Nicaise's seedlings from France, a large good flavored kind of medium growth and a heavy cropper, solid and juicy. Palmyre is another French variety, light colored, flesh firm, melting, luscious, and very juicy, a fine kind. Marquise de la Tour Maubourg is a handsome large well flavored and strong growing free cropping kind. This is another French variety of good quality. Belle de Paris is another French kind of the British Queen race, fruit large and handsome, medium flavor, and very free bearer, hardier than the British Queen. Ruby is one of Nicholson's seedlings sent out a few years ago, a good useful late free cropping kind for market purposes. Admiral Dundas and Sir Charles Napier both maintained their good character. Ne Plus Ultra is a seedling sent by Mr. De Jonghe; fruit long and fine, good flavor, and very dark throughout; a most prolific and useful kind. Rivers's Eliza is fine in flavor and a good cropper. Cuthill's Princess Royal of England is a medium sized cone-shaped fruit of a light color, with lemon-colored flesh when ripe, fine flavor, and very prolific. Cox's Hybrid is a fine, sharp-flavored juicy handsome fruit, of good size, a good cropper, and very late.

Many kinds have been sent from America, and are grown here, but with two or three exceptions cannot be regarded as fine strawberries, almost all being deficient in flavor. One of the best is Boston Pine, a free cropping variety of medium size, useful for preserving, and very early. Wilson's Albany, however, is the best as seen here; a good-sized handsome round fruit, of a dark red color throughout; an excellent preserving sort.

In Hautbois, not much advance has been made. The best are Rivers's Monstrous Hautbois and the Black Hautbois, both of which are free bear-

ers, rich-flavored, and good sized for Hautbois. I don't know if the Hautbois makes a good parent, but the flavor of this and the old Pine is what we want in strawberries. We have it now to a great extent in the late kinds, but we are sadly deficient in flavor in the early kinds. At present, at Yarm, and in other places northward, May Queen, a small and poor-flavored kind, is the earliest; next Princess Frederick William, a free-cropping kind, of medium size but poor in flavor—still it is very early. Then comes Boston Pine, and plenty of others. We want fine early kinds, with the flavor of La Constante, Carolina Superba, and British Queen.

Of course British Queen was good at Yarm, as it is everywhere in suitable soil and situation; in fact it is a grand strawberry when it can be grown well; and at Yarm, Carolina Superba was also superb in all respects. This is a most delicious strawberry, but generally tender. Sir Harry, and a spurious Sir Harry, are both grown here and elsewhere. With me this year Sir Harry is delicious in flavor, the hot weather exactly suiting it.

I have, I fear, done but imperfect justice to many varieties I saw at Yarm; for to go through so many kinds in one day rendered it almost impossible to do justice to all. I aimed chiefly at selecting the best sorts.

Gossip of the Month.

ANNUAL EXHIBITION OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.—The Annual Exhibition of this Society will be held on the 15th, 16th, and 17th of September, in the Academy of Music. Especial pains will be taken to have a grand display. The Academy will accommodate about 4000 visitors. The immense parquet and stage will be floored over, forming a magnificent hall for the display of plants and flowers, while the large and beautiful foyer will be appropriated to that of fruits, table designs, &c. The prizes are open to all competitors. It is hoped that the cultivators of our vicinity will send some of their splendid fruits, which we have no doubt will be acceptable contributions. Boston should be represented in the grand display which the Society intends to make.

HORTICULTURAL EXHIBITION OF THE AMERICAN INSTITUTE.—The schedule of prizes offered by the Institute has been published and distributed. The exhibition takes place on the 16th of September, and all articles intended for show must be delivered at the Academy of Music on Wednesday morning, September 16th.

Liberal premiums are offered for plants, cut flowers, dahlias, &c. &c.

EXHIBITION OF THE NEW YORK STATE AGRICULTURAL SOCIETY.—The Annual Fair of this Society will be held at Utica, N. Y., Sept. 15th to the 19th. As usual, there will be a fine display of fruits, flowers, and vegetables.

Massachusetts Horticultural Society.

Saturday, August 1.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Capt. Austin, who was authorized to settle the claim of Mount Auburn, for filling bog land, made a report, stating that he had effected a satisfactory settlement, and paid the Mount Auburn Cemetery \$287.50. The report was accepted.

Adjourned two weeks, to August 15.

AWARD OF PREMIUMS FOR FRUITS.

GRAPES, (Forced.)—For the best, to R. W. Turner, \$8.

For the next best, to M. H. Simpson, \$6.

For the next best, to Joseph Breck, \$4.

CHERRIES.—For the best, to P. J. Stone, for new Black Bigarreau, \$4.

For the next best, to J. Nugent, \$3.

For the next best, to C. E. Grant, for Napoleon Bigarreau, \$2.

PEACHES, (Under glass.)—For the best, to C. S. Holbrook, for Crawford's Early, \$6.

For the next best, to C. S. Holbrook, for George IV., \$5.

For the next best, to R. W. Turner, \$4.

STRAWBERRIES.—For the best Triomphe de Gand, to J. W. Foster, \$4.

For the best La Constante, to J. C. Park, \$4.

For the best Jenny Lind, to J. W. Foster, \$4.

For the best two quarts of any other sorts, to J. W. Foster, \$4.

August 8.—The Exhibition of Phloxes for Premium took place to-day, and there was a very fine display from various cultivators, and some pretty seedlings exhibited by F. Parkman, two or three of which promise well.

Six or eight stands were put up, and the first prize was awarded to Hovey & Co. for the following varieties:—Triomphe de Twickel, Mad. Suer, Julie Roussel, Aug. Lievel, La Volupté, Mad. Rougier, Mad. Vilmorin, La Candeur, Alex. Verschaffelt, and Mad. Masseaux. Washburn & Curtis carried off the second prize, but we did not obtain a list of the varieties.

The show of cut flowers was good for the season, and some fine hollyhocks were sent by Messrs. Strong & Spooner.

August 15.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The President, from the Committee appointed to procure a site for a new building, made the following report, which was accepted, the resolutions adopted, and the secretary authorized to record the same.

The Committee for the purchase of a site for a building, respectfully submit the following Report:—

At the quarterly meeting in January, they submitted their previous Report, and, at the meeting on the 7th of February, it was accepted, and the following vote passed: "That the Committee, who are authorized to pur-

chase a site for a new hall, be requested to continue their efforts for that purpose, under their present limitations and restrictions, and that they be also authorized to apply to the Legislature of the Commonwealth for permission to this Society to purchase and hold real estate to an amount not exceeding two hundred and fifty thousand dollars."

In accordance with this vote they applied to the Legislature, and authority was granted, and the act has been accepted by the Society.

They have also to report that they have purchased for the Society the Montgomery House estate, on Tremont Street, for the sum of one hundred and one thousand dollars, payable in twenty years, secured by a mortgage on the premises, with interest at five and one half per centum, per annum, in bankable funds, possession to be given on the first day of September of the present year.

That the title to the estate has been examined by Edward S. Rand, Esq., and pronounced satisfactory, and that they have secured for the Society, by deed from the owners of the estates on Montgomery Place the requisite privileges therein.

The estate is so well known, and has been so generally admitted by the members to be the most central and desirable location obtainable, that the Committee does not deem it necessary to give a particular description of it at this time, but they will state for the information of those who may not recollect the dimensions of the estate, that they are as follows:—55 feet 5 inches on Tremont Street, 123 feet 9 inches on Bromfield Street, 120 feet 7 inches on Montgomery Place, and 52 feet 3 inches on the rear line, containing in all about 6300 feet.

The present building can be leased for about enough to pay the interest until the Society decides to erect such a building as its wants and interests may require. As the erection of such a building will require much time and consideration before the plans and estimates can be matured, the Committee would suggest that it be placed under the care of a Committee, and they would recommend the passage of the following resolutions:—

First, That the President and Treasurer be hereby authorized and directed to sign and execute all papers and documents necessary to complete the purchase by the Committee of the estate known as the "Montgomery House."

Second, After possession by the Society of the Montgomery House estate, the care and management of it is hereby placed in the hands of the President and Finance Committee, who shall make an Annual Report of their proceedings.

All of which is respectfully submitted,

C. M. HOVEY,	}	<i>Committee.</i>
JOSIAH STICKNEY,		
JOSEPH BRECK,		
C. O. WHITMORE,		

John H. B. Lang, Nathan Matthews, Boston; Dr. Augustus Torrey, Beverly, and John L. De Wolf, were elected members.

Adjourned three weeks, to September 5.

EXHIBITED.—Gladiolus, in fine variety, were exhibited to-day by several cultivators. The hot weather of the previous week somewhat diminished the quantity of flowers on each spike, and they were hardly up to last year; but the variety of kinds was more numerous and contained some quite new.

Mr. Breck's stand of twenty varieties carried off the prize, and contained the following:—Ninon de l'Enclos, Raphael, Reine Victoria, La Quintinie, Leonardo de Vinchi, Mad. de Vetry, Comte de Morny, Napoleon III., Achille, Duc de Malakoff, Lord Campbell, Goliah, El Dorado, Comtesse de Bresson, Lord Raglan, Calendulaceus, Clemence, Mathilde de Landevoisin, Celine and Mad. Leseble; a fine assortment of colors. Reine Victoria is in the way of Bertha Rabourdin, large, pure white, with carmine blotch. El Dorado and Lord Campbell, very fine yellows, which gave a good effect to the display.

Curtis & Washburn were second, with some excellent kinds, but scarcely so new. Strong & Spooner sent a few very fine flowers, and other cultivators contributed.

In the class of flowers shown for display in bunches of four, in spikes, there was some misunderstanding as regards the prize. The Committee, generally, understanding it to mean four spikes of one variety; but the exhibitors put up four different kinds. They, however, awarded the first to Joseph Breck, and the second to Washburn & Curtis.

The petunias exhibited for prizes were excellent, but not large in quantity. Mr. Nugent had the first prize for a lot of unnamed flowers, and Messrs. Hovey the second, for twenty named sorts, including several of Buchanan's blotched sorts, and other new and fine old kinds.

Balsams were rather poor; the dry weather of June stunting and dwarfing the plants beyond recovery for a fine bloom. The cut flowers were very fine, and embraced beautiful phloxes, roses, Japan lilies, gloxinias, &c. These were contributed by Hovey & Co., Washburn & Curtis, Strong & Spooner, Joseph Breck & Son, F. Parkman, J. Nugent, J. McTear and others.

AWARD OF PREMIUMS.

GLADIOLUS.—Class I. Twenty varieties.

For the best, to Joseph Breck, \$6.

For the next best, to Washburn & Curtis, \$5.

Class II. Twelve varieties.

For the best, to B. Bruce, \$4.

For the next best, to Washburn & Curtis, \$3.

For the next best, to J. McTear, \$2.

Class III. In bunches of four spikes.

For the best, to Joseph Breck, \$5.

For the next best, to Washburn & Curtis, \$4.

BALSAMS.—For the best, to J. Nugent, \$3.

For the next best, to J. Breck, \$2.

For the next best, to J. McTear, \$1.

PETUNIAS.—For the best display, to J. Nugent, \$3.

For the next best, to Hovey & Co., \$2.

For the next best, to Strong & Spooner, \$1.

Horticultural Operations

FOR SEPTEMBER.

FRUIT DEPARTMENT.

AUGUST has been the warmest month of the summer, with a succession of very warm days, alternating with heavy showers, and vegetation has been rapid, making up for the check from the drought in June.

GRAPE VINES, in the earliest houses, just pruned, or now to be pruned, if not already done, should be washed and cleaned. Keep the house well aired until the time for forcing begins. Vines, in the greenhouse, should have all their fruit cut this month, as the moisture from the plants, which will soon be brought in, would injure them. In the grapery they may be allowed to hang until they shrivel; no other care will be necessary than to keep the straggling laterals cut in, allowing them, however, to ramble rather freely. Vines, in cold houses, will now be maturing their fruit, and should have an abundance of air at all times. Discontinue all watering, or damping of the house. Vines, in the open air, of our hardy grapes, may now be pruned of some of their superfluous wood, so as to admit a free circulation of air among the branches and fruit.

STRAWBERRY PLANTATIONS may be made, up to the 20th, after which time it will be safer to defer them till spring, as the plants will hardly get well established. Continue to weed and clean old beds, and lay in the runners at proper distances, or cut them off wholly, according to the mode of growth. Plants for forcing, layered into small pots, should now be shifted into 7-inch pots, in which they are to fruit. Use rich soil, and pot hard.

PEACH AND OTHER FRUIT TREES, in pots, should now be more sparingly watered, so as to fully ripen the wood. Place them in a warm sheltered spot.

TREES, budded last month, should be looked over, to see that the ties are not girdling them.

THINNING FRUIT should be continued, and every wormy specimen removed from the tree. This is the month that fruit swells the most rapidly, and late pears will be greatly increased in size and beauty, by taking off a portion of the crop.

TRENCH and prepare ground intended for planting fruit trees the present autumn.

FLOWER DEPARTMENT.

September is the month to prepare for the winter, as it is rare to escape frost in some localities; or, if no frost, the nights are so chilly as to injure

many tender plants. Prepare early, therefore, to house everything of value, leaving the hardier kinds out as late as possible. See that the houses are in good order, and the flues tight. Clean thoroughly, to destroy all insects.

PELARGONIUMS will now require attention; if they have not been repotted, proceed with the work at once. After potting place in a frame, where they may be kept rather close, and sheltered from heavy rains. Cuttings should be potted off as soon as well rooted.

CAMELIAS should be rather sparingly watered, as the weather becomes cooler; but they may be syringed often. Have the pots washed clean before taking into the house, which is usually the last of the month.

AZALEAS should now have a rather open sunny situation, to thoroughly ripen the wood. Water carefully, and house before the weather is cool. Now is the time to tie in and neatly arrange specimen plants.

CHRYSANTHEMUMS will be growing vigorously, and should have occasional waterings with liquid manure. Tie the plants up to neat stakes, and remove to pits or the house, before hard frost. Repot such as require it, in good season.

CALCEOLARIAS, raised from seed, should be potted off in light soil.

CINERARIAS should be divided and potted, if not already done, and seedlings should be potted off, placing them in a frame.

CALLAS should be repotted.

MONTHLY CARNATIONS, planted out in the open ground, should be taken up and potted.

HEATHS should be potted.

ORANGE TREES should be removed to the house in good season, top-dressing them with a little fresh soil.

CHINESE PRIMROSES should be kept in a frame as long as the weather will admit.

VERBENAS, for winter flowering, should be shifted into larger pots.

BEDDING PLANTS, of all kinds, should now be propagated from cuttings.

FLOWER GARDEN AND SHRUBBERY.

Continue to roll and mow the lawn, as long as there is any growth. Trim the edges of the walks, and rake and roll often, to keep a hard surface.

LILIES, of all kinds, except the Japan and Tiger, may be removed the last of the month.

WINTER BULBS. Prepare ground now, for hyacinths, tulips, &c. Trench well, and add fresh leaf mould and sand, if the soil needs renovating.

PÆONIES may be transplanted this month.

NEAPOLITAN VIOLETS should be planted out in frames.

DAISIES should be divided, and planted in frames.

TENDER PLANTS, such as caladiums, cannas, &c., should be taken up before frost.

DAHLIAS should be tied up often, and the lower shoots pruned away. This is the month to obtain fine blooms.

THOUGHTS ABOUT VARIETIES.

SUCH is the title of an article by the learned botanist Decaisne, contributed to the French Journal *Les Mondés*, discussing the interesting subject of Varieties in Plants and Fruits, or what might be termed, according to an article of ours in a late volume (XXVII., p. 385) Variation in Fruits. The whole article is not only highly suggestive, but it sets at rest the much controverted point in regard to seedling fruits. It is well known that Duhamel and other writers, and among our own pomologists the late Mr. Downing, promulgated the idea that the tendency of seedlings, raised from our best varieties of fruits, was to revert to their original type, and hence modern cultivators, following this advice, have in part abandoned the attempt to produce new fruits by the simple process of selection from the best kinds, believing that the system of Van Mons, or the process of hybridization as practised by the late Mr. Knight, were the only means of accomplishing great results. The mode of Van Mons being slow and tedious, and that by hybridization requiring care and attention, few have attempted the growth of new fruits by these methods; hence, for nearly half a century, since the labors of Van Mons, only a few enthusiastic Belgian pomologists have continued the production of seedlings by selection from the best old varieties.

Among our own cultivators we know of but one instance of an attempt at the production of seedlings in this way. This was the experiment of Mr. Dana, and the result was successful enough to upset all the theories advanced by Duhamel and others. From a single sowing of a lot of seed he raised six of the very finest pears, some of them surpassing anything ever yet produced. This was a mere chance production of kinds, probably without knowing that any such idea had been advanced, simply from the interest Mr. Dana felt in the cultivation of fruits. It is therefore gratifying to find M. Decaisne refuting the oft-repeated notion

of the old French writers, by the accumulation of experiments tried by his own hands, all tending to confirm the old doctrine that "like produces like," though the variation may be more or less, but proving the absurdity of the theory of a reversion to the original type.

We have not the space at this time to enlarge upon this subject, but we commend to pomologists an attentive perusal of M. Decaisne's remarks, trusting that it will forever dispel the idea, which has undoubtedly prevented the more extensive growth of seedlings, that selections of the finest fruits will not produce excellent varieties:—

The almost unlimited and ever increasing number of varieties in fruit trees, vegetables, and all useful plants, is a fact to which science has at present given too little attention. What is still more astonishing, this fact has been remarked by those who are almost strangers to the study of plants, whilst from time immemorial it has been an object of important consideration among cultivators. The ancient authors, Pliny, Columella, Theophrastus and some others, as well as those of a more recent date, such as the Brothers Bauhin, Ch. and R. Estienne, Dalechamp, &c., have pointed out a pretty good number of such varieties, especially among fruit trees, where they are the most manifest, but it is vain to search for the origin of these varieties in their works; for though these authors leave us loosely to conclude that the varieties are, or may be, the result of cultivation, no one says positively that such a new variety proceeds from such another, nor is it any where explained how it is that they go on multiplying from century to century. These new forms, what are they? Can they be, as has been recently asserted, true species which have remained unknown up to the time when they were first subjected to cultivation, or are they merely modifications of ancient known species, gifted with the property of assuming various appearances according to climate or situation? It may appear strange that such a question should be brought before the Academy, so natural does it seem for a species to be subject to change, but we will show presently that this question is

not one that ought to be passed over without examination; for if it is of importance to practical agriculture it ought to be equally so to science itself.

Botanists in the present day may be divided into two schools. The more ancient, which may be called the Linnæan, admits the changeableness of species; within limits, no doubt, though it is not always easy to define them. Hence those large polymorphous species, sometimes vaguely defined, but generally easy to characterize by a short descriptive phrase. The other school, which belongs especially to our own time, and which may be designated the school of immutability, denies most positively any tendency to variation in the vegetable kingdom. According to it the forms of species never alter in the slightest degree; and when two plants of the same genus present any palpable difference, however slight it may be, these two plants form two species, radically distinct from the beginning of things. According to M. Jordan, of Lyons, a very eloquent advocate of the modern school, all the races and all the varieties admitted by the ancients become so many species. In his eyes, all our races and all our varieties of fruit trees, of pears amongst others, are distinct, unchangeable species, always preserving their own characteristics, from generation to generation. Hence it follows, that these trees did not proceed, as is commonly believed, from a single or even from a few specific types, which cultivation has caused to vary, but from as many original types as there are perceptible varieties.

Is it not far more simple to account for this ever-increasing number of congeneric varieties by the principle of the changeableness of species, if this changeableness can be proved? Now I think, says M. Decaisne, it can. Remember those astonishing transformations which have recently been observed amongst gourds and melons, whose varieties may be reckoned by hundreds. The facts which I have to mention in the pear tree are of the same order, and lead to similar conclusions, namely, on the one hand, the simultaneous appearance of new races, and the instability of their crosses, and finally the specific unity of all the races and varieties of the cultivated pear tree.

In 1853 I raised a number of seedlings from the pips of pears, selected from four varieties acknowledged by all pomologists as being quite distinct from each other. They were our old Poire d'Angleterre, which everybody knows; the Bosc, the form of which is like that of a longish gourd, with the skin of a uniform cinnamon color; the Belle-Alliance, a dumpy pear with a yellow and red complexion; the Sauger, a wild variety, or nearly so, and which was so named from its foliage resembling in its white woolliness the common Sage. The batch of seedlings of the last were all raised from a tree which grew by itself on the road from Marcoussis to Gué. The pips of these pears came up the same year as they were sown, whilst those of the Poire d'Angleterre did not appear till the following year, and that in two different sowings, without my being able to account for it. Very few of these trees have begun to bear fruit, which I regret, because the result with which they would have furnished me, if all had produced fruit, would have been more varied and for that reason more conclusive than what I am now able to place before the Academy. The first glance at the colored figures now produced shows how much the fruit, in each case, has already changed from the original; thus in the Sauger, four trees which have borne fruit have given four different forms; one egg-shaped and entirely green; a second dumpy and almost apple-shaped, red and green; a third, still more depressed; and a fourth regularly pear-shaped, twice as large as the preceding ones, and of a uniform yellow tint.

From the Belle-Alliance have come nine new varieties, none of which resemble their mother, either in form, size, or color, or even in the time of ripening. To two of these I wish to draw attention, one for its size, which is double that of the Belle Alliance, the other for the dumpy form, which imitates the apple-shaped pears. In like manner the Bosc produced three new fruits of very different type, one resembling so much one of the forms obtained from the Sauger as to be scarcely distinguishable. The variations of the Poire d'Angleterre were not less remarkable; from six trees which have fruited we had six new kinds, all as different from each other and from their mother, as she was from the greater

part of our old varieties; one of the plants even produced winter fruit similar to the Saint-Germain. It is not only in the fruit that trees raised from the same seed differ, it is also in their time of ripening, general appearance, and the form of their leaves. These differences are striking when the trees are seen growing together in the same border. So many trees, so many different appearances. Some have spines, some have none; some have slender wood, in some it is stout and coarse. Upon some of the seedlings from the old Poire d'Angleterre, the variation went so far as to produce lobed leaves, like those of the hawthorn or *Pyrus japonica*. Everything varies in the pear tree, even to its sap. As proof of this, observe the very different success of the graft, according to the stocks employed. All the varieties and races of pear trees bear grafting upon a pear tree, that is to say upon the wild pear tree; but all will not take upon the quince; as for example, the Rance, Clairgeau, Bose, Duchesse de Mars, &c. When it is desired to keep these trees dwarf, which can only be done by employing the quince stock, the latter must be first grafted with Belle-Angevine, Jaunissette, Crasane, Sucré-vert, or any other that will do on the quince; and then the first grafts may be successfully regrafted with the sorts whose sap will not agree with the quince. This operation is known and practised by all nurserymen. The relative size of flowers and the appearance of the foliage present a not less striking variation. Certain sorts, such as the Catillac, Saint-Gall, Gnoeco, Epargne, the Poire de Vallée, have petals very much rounded and waved, à corolla from five to six centimètres wide, and their wood when young as downy as that of the Sauger; later in life they lose this peculiar woolliness. Others, such as de Hélic, Sylvange, Fortunée, &c., have oval or lanceolate petals, with flowers only half as large as the last. Finally, I have seen in the collection of M. Jamin-Durand, a pear tree which by mistake bore the name of Chartreuse, whose linear-lanceolate petals were not more than three millimètres wide by nine long.

It is evidently vain then to look for specific distinctions in the proportions of the flower and its organs. Can we pretend then to find them in the size and form of the fruit? It

has already been seen how these two circumstances vary in the seedlings just spoken of; and nevertheless, my experience goes no further than four varieties, of which only a few trees have fruited. The modifications might have been far more numerous, could I have experimented upon all the known races of pear trees. We can judge of the enormous difference which exists, with regard to size, when we call to mind that the wild pear of Blidah, which botanists have named a little prematurely, *Pyrus longipes et azarolifera*, is only the size of a pea, whilst our enormous pears, d'Amour and Belle Angevine, vie in size with a melon of middling size; that is at least 1200 or 1500 times larger than the first. But, perhaps it will be said, those are precisely the characteristics which prove the specific difference of these pear trees. But, unfortunately it is not so; for the microscopically small pear of Blidah passes by insensible transition to the Cent-au-godet, cultivated in our north-western provinces, and scarcely larger than the first; from that you arrive at the Sept-engueule, another variety, or rather a collection of sub-varieties, whose fruit varies between the size of a nut and a walnut. Then come our medium pears, and from these we arrive at the enormous ones by a very gradual gradation; exhibiting at the same time all the accidental differences of form and color, from the long Cornemuse and Musette pears, down to those so much depressed as to justify their being compared to apples. How, I ask, can any specific characteristic be laid hold of, of however little value, amongst a multitude in which all extremes are united to each other by such insensible gradations, and to such an unlimited extent?

The advocates of plurality of species, more especially in the case of pear trees, may say, that if out of this multitude of intermediate forms, we are incapable of recognizing distinct specific types, that is because these first species have been crossed and recrossed thousands of times with one another, that their fertile hybrids have enormously increased the number of crosses, and to that may be attributed these innumerable forms which drive classifiers wild. Far be it from me to deny such crosses or their influence; for nothing strikes me as more probable. Indeed it is scarcely possible

to doubt it, when we see what takes place in an orchard of pear trees in full blossom, where the bees, attracted from a league all round, are feeding from morning till night, and brushing about the pollen of all sorts and varieties, and shedding it on stigmas which were never intended to receive it. And these fertilizations, unnatural as they are thought to be, invariably take; all the flowers which receive pollen of any pear tree whatever, setting their fruit, which always contains fertile seeds. I ask, then, if this constant fertility, after every conceivable cross, proves the diversity of species from their primitive types? To my mind it is precisely the contrary.

Does the graft, as some people maintain, alter the character of the variety? For my part I think not; at least I have never observed anything to make me think so. Duhamel, for example, remarked a century ago, that the Pear Imperiale with oak leaves (another curious variation of foliage similar to what I mentioned before) never had but three cells in its ovary instead of five. Now it can be proved at the present day that all the fruit of this race or this variety have but three cells; although ever since the time of Duhamel it has never been propagated in any other way than by grafting. Many other facts of the same kind might be brought forward in support of the want of power in the graft to alter the nature of the variety, as for example the property, whatever it may be, which gives flavor to fruit, varying as it does so remarkably in different kinds.

The notion that fruit trees degenerate because they are propagated by grafting is an error which must be exposed. There is no single fact to prove it. Those which have been cited depend upon totally different causes, first and foremost among which are climate, unsuitable soil, and very often bad cultivation, or a neglect of pruning, so common now-a-days. Our ancient pears, which a century or two ago were so justly esteemed, are now exactly the same as they ever were; they ripen at the same time and keep good just as long. If they are neglected it is no proof that they degenerate. It is only that nurserymen are interested in bringing forward new varieties. The pretended degeneracy of ancient races is in

reality nothing more than one of these clever devices of the present day. On the other hand, can it be true, as Van Mons and many pomologists believe, that the pips of a good fruit produce wild austere fruit, and thence return to what they suppose to be the specific type? I do not hesitate to declare the contrary, and I defy any one to bring forward an example of a good fruit, whose flowers were fertilized by its own pollen, or by that of any of its own race, whose seed has produced wild fruit. If a good variety is fertilized by a wild or austere sort, it is only natural that the trees raised from such seed should produce new varieties, some if not all of which will prove inferior in quality; it may even happen that in the number there will be some with fruit as bad as that of the wilding which furnished the pollen; but this degeneracy, if you like to call it so, is nothing but the consequence of an unskilful cross. It may be considered certain, that all superior varieties of the pear tree, and I may say of all fruit trees, if they are fertilized by themselves, produce good fruit; they may vary, and will probably do so, sometimes in one peculiarity and sometimes another, according to the variety, but none will become wild, any more than our seedling Cantaloupe melons return to the form and flavor of the little wild melons of India, or our cabbages and cauliflowers return to some one of the wild races or varieties that grow on the sea-shore. Whatever the advocates of immutability may say, the species of plants are really subject to great variation, and there is much truth in the theory which refers to the same specific type races and varieties, which, though very different in appearance, have the same morphological organization, and which, like the members of the same family, are capable of crossing one with the other. Taking the whole series of possible generations, I am quite aware that there always will be doubtful cases, notwithstanding the proof of fertile crossing; but that is no reason for separating, as so many distinct primordial entities, what observation and analogy show us can proceed from a single original specific type. Take any one of our races of pear trees, and transport it to all the regions of the globe; wherever it can exist, it will struggle to adapt itself to the situation, and you will find after a few

generations it will have given birth to new and numberless varieties. This fact, which takes place under our own eyes, in the case of every cultivated plant that is much distributed over the world, gives the key to those polymorphous species which perplex botanical classifiers, and which have only become what they are, by Nature herself having spread them over an immense expanse of country.

It appears to us, says the Editor of *Les Mondes*, from which these remarks are derived, that the views of M. Decaisne are self-evident; that the immutability of species is not at all at variance with the multiplicity of varieties, or of what in other cases are called races. Two pear trees and two pears do not differ more from one another, than two dogs or two men.

FLORISTS' FLOWERS.

IT requires at least a knowledge of the elementary principles of botany to understand the difference between a wild flower and a florists' flower. The most obvious distinction is that which is founded upon the multiplication of the petals. Hence all double flowers, of a species which in its wild state produces only a circular row, or border of petals, surrounding the disc, are florists' flowers. But this multiplication of the petals of a flower is not the only improvement which the art of the florist has produced, as will appear when we come to that point. For the present we will endeavor to show particularly the changes that take place in the course of the transformation of a single flower to a double one.

We do not altogether approve the term which was formerly applied to double flowers, when they were called "vegetable monsters." The change which has taken place in them does not warrant the application of this term to them. In some of the double flowers the petals are multiplied several times, but without causing the destruction of the stamens. In this case they produce seeds, as in many flowers of the double rose and dahlia; but in others the petals become so numerous as to render the reproductive parts of the flower entirely bar-

ren; so that they produce no seeds. This is the case with the caltha, peonia, and alcea, and others.

The changes that take place in the formation of double flowers are various. In some cases they are formed by the multiplication of the petals and the exclusion of the nectaries, as in larkspur. In other instances we find the reverse of this, where the nectaries are multiplied to the exclusion of the petals, as in the columbine. In some flowers that grow in cymes, like the viburnums, the wheel-shaped flowers in the margin take the places of the bell-shaped flowers in the centre. This change is very obvious in the cultivated flowers of the *Viburnum opulus* or Guelder rose, known better here as the snow-ball tree. There is still another mode by which a flower is changed to a double one; or rather by which it is made more full. This happens by the elongation of the florets in the centre, and can take place only in compound flowers. Instances of this change are found in the daisy and feverfew. In the rose the stamens are changed into petals to make it full; in the dahlia and sunflower, aster and zinnia, the florets in the centre are furnished with petals like those of the margin.

The calyx or perianth is not changed in double flowers. Hence the genus, or family, may often be discovered by the calyx, as in hepatica, ranunculus, alcea, &c. In those flowers which have many petals, the lowest series of petals remain unchanged in respect to number, so that the natural number of the petals may be easily determined. This is the case with the poppy and the rose.

The change that takes place in a flower when it passes from single to double, seems to be analogous to the change which happens in a fruit when it is transformed, like the apple, from the sour crab, into an eatable pomological favorite. It would not seem to be right to call all these delicious fruits "vegetable monsters," since they bear seeds like any others; yet the term is as applicable to improved fruits as to florists' flowers, except a few cases. But the change produced by the art of the florist is not always an improvement. Very few persons can agree in deciding whether a double rose is more beautiful than a single one. If we look at them in the fields

and gardens, we might give the palm to the wild rose; but the double roses are always preferred in bouquets.

When we come to the hyacinths, tulips, narcissus, and other bulbous flowers, very few persons would prefer the double to the single varieties. The art of the florist, in these cases, has, therefore, been chiefly directed to the improvement of the size and coloring, rather than to the multiplication of the petals. The same may, for the most part, be said of violets, of the pansy especially. When the petals of the tulip become striped with many colors, the plant loses almost half its height; a singular and unaccountable change, which seems to be analogous to that which takes place in some animals, as in the hog, for example; for just in proportion as it becomes susceptible of being fattened, is it diminished in height. The larkspur, likewise, becomes shortened by the process which changes its flowers from single to double. The method of making a flower double seems to consist of luxurious appliances of all sorts, in the course of several generations. But the method used for making those tulips which are of one uniform color, break into a variety of colors, is by transplanting them into a meagre or sandy soil, after they have previously been accustomed to a richer soil. It would seem from this that the plant is weakened when the flower becomes variegated.

There are changes that sometimes take place in other parts of the flower. In the Rose Plantain, the bractes, or divisions of the spike, become preternaturally enlarged, and are converted into leaves. The chaffy scales of the calyx in xeranthemum, and in a species of dianthus, and the glume in some Alpine grasses, and the scales in the aments in *Salix rosea*, Rose willow, turn into leaves, and produce other kinds of abnormal changes. In the *Bellis prolifera*, Hen and Chicken Daisy, not only the multiplication of the petals takes place but a numerous circlet of minute flowers, on peduncles or footstalks, rise from the sides of the calyx and surround the principal flower. Hence the name applied to it, of Hen and Chicken Daisy. The same phenomena occurs sometimes in the marigold (*Calendula*); in the hawkweed (*Hieracium*), and in the scabious (*Scabiosa*).

It is worthy of remark, with respect both to flowers and fruits, that those which have become most valuable in their improved state, were for the most part comparatively deficient in these valuable properties in their wild or natural state. The more agreeable any species of fruit in its wild state, the less susceptible is it of improvement, and the more beautiful the flower in its wild state the less remarkable are the changes which can be produced in it by the arts of the florist. The dahlia, in its native or normal condition, possesses only a very ordinary share of beauty. It owes almost all its beauty to cultivation. The same may be said of the marigold, the daisy, the ranunculus, the pink, the poppy, the hollyhock, and very many other species, which depend on the multiplication of their petals for their improvement.

The question is often asked concerning the means by which double varieties of flowers are produced. The means by which such effects are produced are not very definite, and cannot be very precisely stated. We can only say in general terms, as we have already said, that they are produced by a long continuation of luxurious appliances. As an example of the successive steps by which the wild Scotch Prickly Rose, or Burnet, (*Rosa spinosissima*), was converted into a fine full double rose, we will quote from the history of the rose by Mr. Sabine:—

“The first appearance,” he says, “of the double Scotch roses was in the nursery of Messrs. Dickson & Brown of Perth. I am indebted to Mr. Robert Brown, one of the partners of the firm, for the following account of their origin. In the year 1793, he and his brother transplanted some of the wild Scotch roses from the Hill of Vrिमoul, in the neighborhood of Perth, into their nursery gardens. One of these bore flowers slightly tinged with red, from which a plant was raised, whose flowers exhibited a monstrosity, appearing as if one or two flowers came from one bud, which was a little tinged with red. These produced seed from which semi-double flowering plants were obtained; and by continuing a selection of seed, and thus raising new plants, they in 1802 and 1803 had eight good double varieties to dispose of, namely, the small white, the small yellow, the lady’s blush, another

lady's blush with smooth footstalks, the red, the light red, the dark marbled, and the large two colored. Of these they subsequently increased the number; and from the stock in the Perth garden, the nurseries both of Scotland and England were first supplied."

In some cases the double character of the flower, of a species which is single in its normal state, seem to be the production of nature unassisted by art. Thus the Provins rose, (*Rosa centifolia*), was discovered by Bickerstein, with double flowers, growing on the eastern side of Mount Caucasus. The notion that yellow roses are obtained by grafting upon a barberry stock, is prevalent among certain classes of people. It is sufficient to say, that no such notion prevails among cultivators, who understand the nature of grafting too well, to believe in the possibility of any such union. Probably this notion originated from the fact that the Barberry rose, (*Rosa berberifolia*), has been used in crossing with different kinds of roses, for obtaining yellow varieties.

Mrs. Loudon says, "The principal florists' flowers are the hyacinth, the tulip, the dahlia, the auricula, the polyanthus, the carnation, and the pink. But to these may be added the ranunculus and the anemone, and of late years the geraniums, or pelargoniums, the heartsease, the calceolarias, and the chrysanthemums. Of all the kinds the dahlia is undoubtedly that respecting which there is the most gambling and the most rivalry. It may be observed, that the rules by which florists decide as to the merits of their respective flowers do not depend [in all cases] on any particular beauty of color, and sometimes not even in form; but on certain arbitrary criterions which they have settled among themselves. For example, no auricular or polyanthus is admired that is what is called pin eyed, that is, if the style projects beyond the stamens; and a perfect dahlia should not show any green in the centre." These distinctions, however, will be found generally to be based on some important principle which finally meets the sanction of the public. Within a few years other flowers by the process of improvement have attained to the rank of florists' flowers. These are the cineraria, the aster, the hollyhock, the gladiolus, the zinnia, and some others.

An English writer, speaking of the art of obtaining double flowers, does not admit the truth of the notion that they are the effect of soil. He says, "Did soil exhibit such striking effects in producing sorts as is popularly and erroneously imagined, it would be more readily seen perhaps in the instance of double flowers, most absurdly termed *monsters* by Linnæan botanists, than in any other circumstances. Yet we know of no authentic instance on record of such an effect having been produced, though we have a few in every season's occurrence, in double flowers becoming single, or nearly so, such as in the garden daisy. If such garden daisies, however, as have become double, be again slipt off, and replanted, they reproduce double flowers, while a wild or single daisy so planted, even in the best soil, will not do so. We must, therefore, refer the production of the double daisy to some other circumstance, which, so far as we learn, has never been traced, but which, it is highly probable, originated in crossing."

The fact, however, that a mean soil will reduce a double flower back again to its single state, (as is the case when the seeds originally of double poppies are planted for two or three successive generations in a mean soil,) affords very good reason for concluding that the nature of the soil must be one of the conditions requisite for the production of double flowers. It seems to us as absurd to deny this, as to deny that any artificial circumstances are necessary for their production. Double flowers have been procured by crossing half double flowers with others half double; also half double and fully double flowers of the *ranunculus*, by seeds, from crossing with flowers of various colors. M. De Candolle relates that a friend of his succeeded in producing double flowers from seeds of plants *in a rich soil*, [one of the conditions] round which he put ligatures near the crown of the root. Another cultivator obtained seed productive of double flowers from stocks, out of which he had cut all or most of the anthers before the opening of the flower.

The flowers that most readily admit of that modification, which is commonly termed double, or at least those which form the most beautiful specimens of double flowers, belong

either to the compound flowers of the Linnæan system, or to the family of Rosaceæ, excepting the anemone and ranunculus, which are nearly allied to the latter. Flowers belonging to other families, though they will become double, are imperfect in form, as the tulip and hollyhock, which, though fully double, are wanting in that beautiful symmetry which marks a fine dahlia or ranunculus.

POMOLOGICAL GOSSIP.

STRAWBERRIES AND STRAWBERRY CULTURE.—Although we have in our previous volumes given the mode of strawberry culture in the vicinity of Boston, it may not be uninteresting to hear what other cultivators, who have the means of forming an opinion, have to say upon the subject. We are gratified, therefore, in presenting the views of Mr. J. F. C. Hyde, one of our best informed pomologists, upon the growth of strawberries and the most profitable varieties for culture, communicated to the *New England Farmer*. Not only has Mr. Hyde visited the grounds of the most extensive cultivators of this fruit around Boston, during the time when the vines were covered with fruit, but has opportunities as a member of the Fruit Committee of the Massachusetts Horticultural Society, to examine the best specimens exhibited before that society, and to compare them with each other and test their quality. Mr. Hyde's remarks are a complete *resumé* of the views of cultivators around Boston:—

“Among our early fruits, and one that seems to demand our attention is the strawberry. I consider the strawberry crop one of the most profitable of all crops in the immediate vicinity of a good market, and perhaps a paying crop, even when the fruit must be transported some considerable distance to market. The average price is about twenty cents a box through the season, and where the fruit is of very superior quality a larger price is obtained. There is great difference of opinion among even good strawberry growers, as to the best varieties to plant for profit, the preparation of the soil,

the kind and quantity of manure to be used, how they shall be cultivated, whether in hills or rows, and how far apart the rows be set, and as to many other things to which we may refer. I am aware of the difficulty of making everybody believe as I believe, as to the best sorts to cultivate, nor is it best they should, for it is a well known fact that a variety may do well in one soil and location, and not be worthy of cultivation in another. I shall show this to be the case before I leave the subject. There are several varieties prominently before the public, some of which have stood the test of time. The Hovey's Seedling is one of these, having been brought into notice more than twenty years ago, and yet it is still unsurpassed as a market fruit. It is so familiar to all that I will not take time to describe it. All things considered, it is the most profitable and valuable variety known to us. Its size, productiveness and good quality, render it very desirable. I am aware that objections may be brought against it. It needs and must be set near some other variety, that its blooms may be impregnated by the pollen of such neighboring beds, or you will fail to obtain fruit, but when properly cultivated it is very productive, its color is good, hulls easily, is good flavored, bears transportation well, can be picked rapidly—I have known a young man to pick and "top off" a hundred boxes in a day of this variety, all ready for market. It has all the good properties of a first-rate market fruit, except the defect already described.

We sometimes hear people condemn, or speak disparagingly, of the Hovey, when the fact is, their beds are filled with spurious plants, either chance seedlings or other poor sorts that have run in and been allowed to spread and root out the true plants. Few cultivators can say that they have entire beds of the true "Simon pure" Hovey's Seedling. The fruit of this variety will bring from five to ten cents more per box than most other kinds carried to Boston market. This sort is grown quite extensively and to great perfection by the enterprising farmers of Belmont.

The Brighton Pine is another favorite variety in some localities. It was raised by Mr Scott, of Brighton. It is lighter colored and smaller than the Hovey, profuse bloomer, but in

some localities many of these blooms prove false. It is a fruit of good quality, good size, makes runners freely and covers the ground well, is hardy, and often produces very good crops. It is planted considerably as a fertilizer for the Hovey's Seedling, say one row of Brighton Pine, and then eight or even ten, of Hovey's Seedling. One farmer in Newton has raised more than ten thousand boxes of this variety this season, and speaks well of it. It has not done well with me. The Jenny Lind is a variety that was raised by Mr. Isaac Fay, of Cambridge, and is a fine, early fruit. It is nearly as early as the Early Virginia, much larger, and for all purposes a better variety. It is held in high esteem in some localities, while in others within a mile or two, it has been discarded. The plant is a vigorous grower, making numerous runners, completely covering the ground. Fruit not high flavored, but good. Its earliness is its chief recommendation. Not a good bearer. Well worthy of cultivation.

The Boston Pine is a large berry of high flavor. It is of the same origin as Hovey's Seedling. Color red, but becomes pale, and consequently not so salable,—a vigorous grower, and valuable as a fertilizer for its more fortunate sister, the Hovey's Seedling. Should be grown for home use.

Triomphe de Gand. What shall I say of that? It is of foreign origin, fruit large size, coxcomb shape—looking sometimes very ugly; it is difficult to hull, especially when the fruit is large and ill-shapen; quality of fruit from good to indifferent, color light red, great grower, making many runners, and on this account said to be a good variety for nurserymen to raise; good bearer. It is a favorite with some. Should say worthy of a further trial.

The Cutter's Seedling is a variety introduced to public notice by Mr. B. F. Cutter, of Pelham, N. H. It is a great grower and bearer, fruit of medium size, deficient in flavor, hardy. Many think it worthy of extensive cultivation, but I cannot understand why, unless the answer given by one who grows it extensively furnishes the explanation. I asked him why he grew the Cutter? He said, "It is hardy, bears well, and the public don't know the difference and will buy it, and that is all I care for." To those who take this view of the

matter, no doubt the Cutter would be valuable, but not so for home use. I know there are those who will differ with me in regard to this strawberry, but they can take my opinion for what it is worth. The Bunce Seedling proves to be the Cutter's Seedling.

The La Constante is a foreign variety of very large size, fine form and color, shaped somewhat like the Hovey, but more perfectly round, of good quality, and if it will flourish in different soils and localities will be a very valuable kind. I think it will certainly prove so for garden culture, but I fear it will never stand the rougher cultivation of the field. A further trial will determine this.

The following are among the many sorts that are sometimes met with, none of which I can recommend for general cultivation. All of them, doubtless, have their friends, but they have not stood the test; occasionally, it is true, you will find a man who has a morbid appetite for sharp acids, that will eat the Wilson, and grow it, thinking he has got a good strawberry. I certainly hope that all such may soon be able to overcome such depraved taste, and learn more fully to appreciate the really fine kinds of strawberries that may be grown so easily. With the Wilson I shall class—not because too acid, but for various reasons—Scott's Seedling, Cremona's Perpetual, Jenny's Seedling, Walker's Seedling, Hooker, Lady of the Lake, Great Austin Shaker Seedling, Peabody, Fillmore, and a host of others that time will not allow me to enumerate.

Is it not strange, after all the efforts that have been made for years to procure new and fine varieties of strawberries, that the Hovey's Seedling should still be acknowledged by most strawberry-growers in this vicinity as the very best variety for general cultivation? I can honestly say, that after having grown most of the sorts I have named above, and seen all of them on exhibition at the rooms of the Massachusetts Horticultural Society, or growing on the farms in the neighborhood, I am forced to the conclusion that the opinion above expressed is correct."

GREEN PROLIFIC STRAWBERRY.—This is the name of a variety produced by Seth Boyden, Esq., of New Jersey, from

Hovey's Seedling and Kitley's Goliah. It is also one of the parents of Boyden's Mammoth, which we noticed in our last number. Mr. F. Brill of Newark states that Mr. Boyden considers it fully equal in many points, and superior in some, to his new seedling. The plants are very hardy, vigorous growers, and very large, dark green foliage; fruit large, very uniform, round, orange scarlet, good flavored, solid, parts readily from the stem, grows well up from the ground, and is extremely prolific, even more so than the Wilson or Downer's Prolific. It should be grown in hills or single rows.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—In a late number we copied the proceedings of the recent meeting, and offered some remarks relative to the views expressed about strawberries. As we expected when we penned them, the *Rural New Yorker* makes some comments upon our views, reiterating the stereotyped remark, whenever the occasion offers, about what Mr. Hovey "thinks of his own wisdom," as if we did not think a great deal of it without being reminded of the fact so often. That for once, at least, we are not the only wise man, our cotemporary will see from our last issue, where we quoted the opinions of the Germantown Telegraph—whose editor has not the reputation of thinking so much of his own wisdom—upon the same meeting.

That we were surprised at the opinions expressed, and many others, is certainly true. If nearly thirty years has had no other result than returning to the culture of the Early Scarlet, we might as well give up all attempts at improvement. If market growers have not advanced, the public taste has, for choice fruits will sell at a good price. This holds good with the strawberry as well as with other fruits. Actual facts, and not mere reports, are the best evidence of this, and we give the following statement, received from a dealer in the Boston market who sold the fruit for each party. One strawberry grower cultivated just an acre, and the net proceeds paid to him were \$1000. Another cultivator had upwards of three acres, and the net proceeds paid to him were just \$1500. The first receiving as the profits of one acre of the best strawberries, as much as the other received for two acres of miscellaneous varieties. If our Rochester friends

wish to grow such varieties as Early Scarlet, Longworth's Prolific, and Wilson, we certainly have no objection, but it is at least our duty to show that it is very poor business for those who wish to supply the market with good fruit at the largest profit to do so. In fact the idea of cultivating such strawberries as the Early Scarlet, Longworth's Prolific, and the Wilson, would be like going back to the growth of Knight's Monarch, Crassane, and Aston Town pears. Their day has gone by.

GRAPE VINES have grown unusually fine this year, and there has been but very little mildew. From present appearances the crop will be large, and if not injured by early frosts we anticipate a better show than has ever been made of our hardy sorts. It will prove the value of some of the newer kinds for general cultivation.

ENGLISH OPINIONS OF FRENCH STRAWBERRIES.—The Cottage Gardener contains an account of a French exhibition, from one of its correspondents, which we copy as showing the value of the opinions of those who pronounce American strawberries worthless:—

“If the vegetables were indifferent, I cannot say much for the fruits. There is a M. Ferdinand Gloede who has written prodigious things concerning strawberries, and I expected when I saw his name among the list of contributors that one would see a wonderful collection. He had a basket containing twenty-four varieties—but what a basket! It was divided into compartments about four inches square, and in each of these were placed some half a dozen strawberries, many of them—most of them, indeed I should say—English varieties. But oh! could Mr. Smith of Twickenham, or Mr. Turner of Slough, have seen the Sir Charles Napier, Sir Harry's, Victoria, &c., they would have wondered that any one calling himself a strawberry grower could have sent such poor specimens of his skill. It was interesting, however, in one point of view, viz., as showing that there is a probability of the French having something better than the ‘Fraise de quatre saisons,’ which up to this time has been the sole stay of the lovers of the strawberry among them.”

The Belmont Farmers' Club may feel proud of making the greatest strawberry show ever seen.

GRAPES ALL THE YEAR ROUND.—In this country few attempts have been made to have grapes all the year, though we find them in our market nearly all that period. But in no one establishment has this probably been done, though it is accomplished in some of the princely gardens of Great Britain. This, however, is done by a succession of houses, beginning with that early forced, with early sorts, and ending with that retarded most, with very late kinds. The London Florist gives the following account of the way this is done. Mr. Hill of Kale Hall, well known as a most successful vine grower, tells us that for the last three years he has not been without a bunch of grapes for his employer's table, any day in the year. To obtain this supply seven vineries are kept going, in the following order, and planted with the under-named varieties:—

1. Frankenthal; generally breaks of its own accord towards October; fit for cutting, March 25. Here, however, Mr. Hill would add Muscat Hative de Samur, and Buckland Sweetwater.

2. Black Hamburgh, Buckland Sweetwater, Black Prince; started December 1, the earliest fit for cutting by the middle of May.

3. Black Hamburgh, Black Prince; started January 1; in cutting from the middle of June to early in August. Lady Downe's, grafted on Black Hamburgh, comes in useful after the latter is over.

4. Hamburghs principally, with a selection of other sorts; started at the end of February, ripe in August and September.

5. Hamburghs; break of their own accord; ripe, generally, early in September; to hang well they should be ripe by the middle of September; they yield a supply from November to January, and sometimes to the end of February.

6. Muscat of Alexandria; started March 1.

7. Barbarossa, West's St. Peter's, Lady Downe's, Old Tokay, Trebbiana; the latest house; has but little rest, just enough to wash, paint, and top dress; the fruit hangs till the middle of March. To this house Mr. Hill would add Kempsey Alicante, and Burchardt's Prince.

The best early white grape Mr. Hill thinks may be the Muscat, mentioned above, which, started on the first of January, was, by the middle of May, almost fit for the table, and has, moreover, the true Muscat flavor. The next best he finds to be the Buckland Sweetwater. As a late sort Mr. Hill thinks very highly of the true Old Tokay, when allowed plenty of time to ripen; and he highly recommends it as a white companion to Lady Downe's Seedling, which is with him the best late black sort.

At Welbeck (the Duke of Portland's) Mr. Tillery, the gardener, states that they have nine houses planted for a rotation of crops, and the sorts selected are these:—

1. Black Hamburgh, Purple Constantia, Chasselas Musque. The Constantia very early, and highly perfumed; the Chasselas, from its roots being under control, not cracking.

2. Black Hamburgh principally, with Buckland Sweetwater and Grizzly and White Frontignan.

3. Mostly Hamburghs, Purple Constantia, and Buckland Sweetwater, with two plants of Golden Hamburgh, which Mr. Tillery thinks good in early, but uncertain in late houses.

4. Muscat, Black Tripoli, Hamburghs, Frontignans; a very large house; started at the beginning of February; yields a supply through July, August, and September.

5-9, in one range. Muscats in the earliest divisions, Barbarossa, Lady Downe's, Calabrian Raisin, West's St. Peter's, Burchardt's Prince, and Alicante, in the three latest.

THE HOMEWOOD PEAR.

BY W. C. WILSON, ESQ., BALTIMORE.

I OBSERVE in the August number of the Magazine of Horticulture, a description of the pear sent you under the name of Homewood, and am pleased to observe that you appreciate its fine qualities. The title I attached to it was the name of the neighboring estate from whence I first procured the scions. Some ten years ago, the late L. N. Rogers, Esq., of Druid Hill, (now the City Park,) discovered this pear in the village

of Franklin, about five miles northwest of Baltimore, and introduced it into his extensive collection, where it was largely propagated.

Some years back, Mr. Rogers sent specimens of the fruit, under the name of Gen. Taylor, to the United States Pomological Society at Philadelphia. It is described in an ad interim report of the Society. (See Downing, p. 503.)

Recently I have learned, through an elderly gentleman, a resident of the neighborhood of Franklin—who produced specimens of the fruit precisely similar to mine—that he has been familiar with this pear, since about the year 1812, and that it is known in that vicinity as the “Keyports” pear, it having been introduced into that district by a person of this name, from Germany, about the latter end of the past century. Do the German Pomological books, or the *Album de Pomologie*, give any account of this fine pear?

We are pleased to have this history of the Homewood pear, which now for the first time we have learned is the same as the Gen. Taylor, described by Dr. Brincklé in a report to the Pennsylvania Horticultural Society, in 1852, and published in our Magazine, (XX., p. 75). The specimens were from Mr. Rogers, and the description corresponds with our own. Such being the fact, the name of Gen. Taylor has priority. It is undoubtedly a native pear, as it is entirely different from anything received from the Continental cultivators, or described in Pomological works, so far as our knowledge extends.—ED.

DESCRIPTIONS OF SELECT VARIETIES OF PEARS.

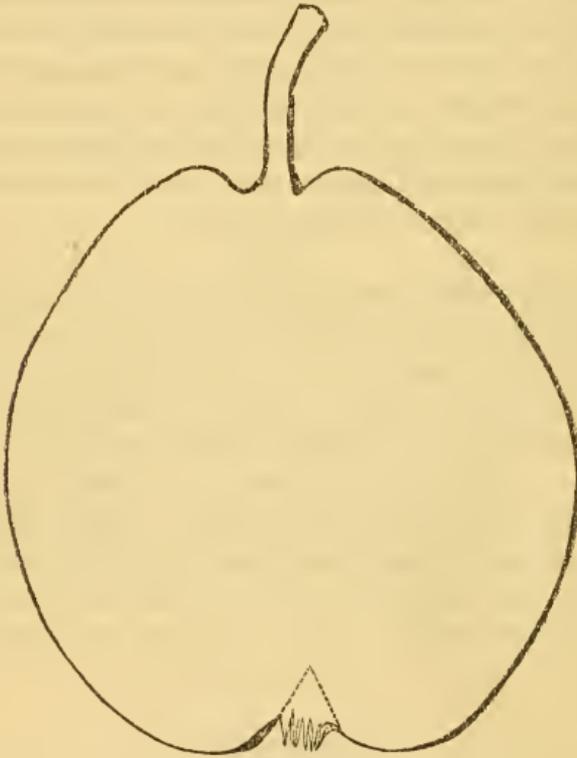
BY THE EDITOR.

WE add to our list of descriptions, three varieties of pears; two of them introduced some time ago, but until now too sparingly fruited to judge of their merits. The other, a seedling, confined mostly to the locality of its origin, but promising so well that we include it in our list.

228. HAGEMAN.

Heggerman, Downing's Fruits.
Hampton, of some collections.

Under the name of Hageman, or Heggerman, this variety, (FIG. 18) was first introduced to notice in 1849, when specimens were exhibited at the meeting of the National Pomological Convention, at Syracuse, N. Y. At that time we thought it appeared to be the Buffum, though not exactly like it. It attracted considerable attention, and was thought



18. HAGEMAN PEAR.

to be an excellent pear. Subsequently, we procured scions of it, with a view to test its qualities. It began to bear a few years ago, but the specimens were small; since then it has fruited more abundantly, and the specimens have been much larger and better. The tree does not appear to be a very early bearer; it is a rapid grower, in habit similar to the Buffum, and like it does not bear heavily till of good size.

It was exhibited under the name of Hageman, though we notice Mr. Downing calls it Heggerman, which we suppose to be an error. In 1849, Mr. Peter Nostrand of Flushing, L. I., sent specimens to the Massachusetts Horticultural Society, stating that it was found in a hedge, on the farm of Andrew Hageman, North Hempstead, L. I. Since then it has been called the Hampton; but it appears that Hageman should be the true name.

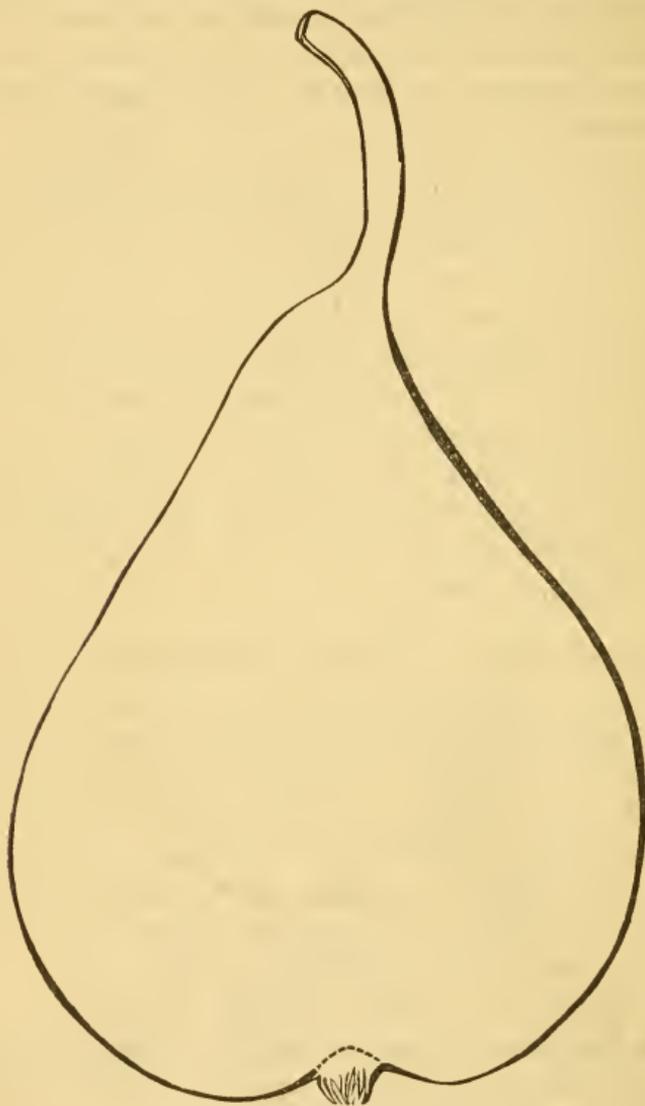
Size, medium, about two and a half inches long, and two and a half in diameter: Form, regular obovate, largest about the middle, rounding off to the crown, obtuse at the stem: Skin, fair, nearly smooth, dull green, becoming yellow at maturity, slightly covered with greenish and russet patches: Stem, medium length, about one inch long, moderately stout, straight, and inserted in a very contracted cavity: Eye, medium size, closed, and moderately sunk in a furrowed basin; segments of the calyx short: Flesh, yellowish white, little coarse, melting, with a pleasant vinous refreshing juice, and agreeable flavor: Core, rather large: Seeds, medium size, dark. Ripe in October.

229. MADAME ELIZA. *Album de Pomologie*, Vol. III. pl. 85.

This very fine pear (FIG. 19) is one of M. Bivort's seedlings, and was named in honor of the wife of the well known pomologist M. Berkman. It is quite a distinct and peculiar pear, having the slightly pink flesh of the Josephine de Malines, and some other Belgian varieties. It is also rather peculiar in its mode of growth and bearing, its fruit being produced in clusters, sometimes six or eight together. The growth is short and its habit open and irregular. Wood, grayish brown. M. Bivort states that among all his seedlings he does know of but one which compares with this in habit; this one is the Beurré Kennes. The fruit is large, and matures at a good season, in November.

Size, large, about three inches long and two and a half in diameter: Form, pyramidal, rather broad at the crown, tapering regularly unto the stem: Skin, fair, smooth, pale green, becoming yellowish at maturity, thickly dotted with large russet specks, assuming a kind of tracing around the

crown: Stem, medium length, about three-quarters of an inch long, not very stout, twisted and attached by a fleshy junction: Eye, large, open and very slightly depressed in a small, shallow basin; segments of the calyx broad, connected,

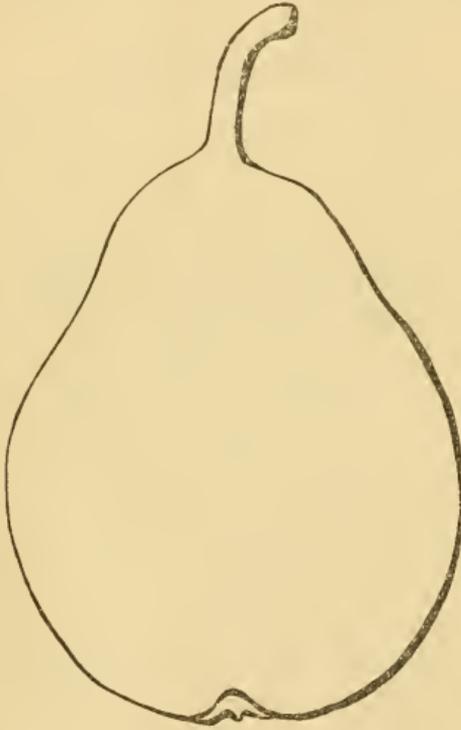


19. MADAME ELIZA PEAR.

short, and rather stiff: Flesh, white, assuming a pinkish tinge around the core; half melting, but very juicy, sweet, refreshing, and excellent: Core, rather large: Seeds, medium size, broadly ovate, dark. Ripe in November.

230. LYCURGUS.

We have already noticed this most excellent pear, (XXVIII. p. 218,) and given an account of its origin. Our first knowledge of it was received from Judge Hoadley of Cincinnati, whose father, the late Judge Hoadley of Cleveland, raised it from seed. Last winter we had the pleasure of receiving some specimens of the pear, which came to hand in good order, and we found it to exceed our expectations, and were



20. LYCURGUS PEAR.

surprised that it had not been better known. Its size is small, but its quality is superior, approaching if not equalling the Seckel in richness, and maturing as late as November or December. It is a decided addition to our American pears, now so numerous and of such a high order.

The Lycurgus (FIG. 20) resembles in the color of the wood and foliage the Seckel, and is probably a seedling of that pear.

Size, small, about $2\frac{1}{2}$ inches long and two in diameter: Form, obtuse pyramidal, rounding off to the crown, which is

small, and obtuse at the stem: Skin, rough, dark, dull green, considerably traced and dotted with dark russet: Stem, rather short, about half an inch long, slender, twisted, and inserted without any cavity on the obtuse end: Eye, large, open, and set nearly even with the surface of the crown; segments of the calyx medium length, generally reflexed: Flesh, greenish white, little coarse, but melting, and full of a very rich sugary and perfumed juice: Core, small, seeds rather large, broad, and sharply pointed, brown. Ripe in November and December.

THE PELARGONIUM.

FROM THE GARDENERS' CHRONICLE.

WE have in former volumes given numerous articles upon the culture of the pelargonium. But a plant so truly beautiful, and desirable in every collection, cannot be too often brought to the attention of cultivators, if only to refresh the memory of those who know its treatment already. But there is more than this; different cultivators have slightly different modes of treatment to bring about the same result, and we often learn from one what the other does not teach us.

We had intended to reproduce the engravings given in a late volume, upon the pruning of the plants, to make fine specimens; and we shall endeavor to do so ere long. So much more interest is taken in the pelargonium now than formerly, that we trust we shall be rendering a service to our amateurs in doing this; we shall also add a new and fine engraving, representing a perfect specimen plant, which will show to all who have not seen such, to what beauty and perfection the plants may be grown.

In the meantime we present the following article by Mr. Bailey of Nuneham, a practical cultivator, who has had good success in their management, and if his advice is followed there need be no fear of inferior specimens. This is the season when the training of the young plants should begin; and if properly managed they will be very handsome the coming spring, when they will form the ground work for mag-

nificent examples, equalling those which have been so attractive at all the showy exhibitions of late years:—

The class of pelargoniums which I intend to bring into notice in this paper is that of the large flowering or show varieties. If we begin with young plants received from a nursery by the beginning of November (and the earlier the better), I may say that as soon as they arrive, if the pots are tolerably well filled with roots, shift them into 6-inch or 82-sized pots, employing a mixture of sound turfy loam (dug at least 12 months before it is used) and well decomposed stable dung, three parts of the former to one of the latter, with a liberal admixture of sharp silver sand, and abundance of drainage. Keep the plants rather close for a few days after potting, in order to encourage rooting into the fresh soil, after which abundance of air should be given on every favorable opportunity—but avoid cold draughts. The temperature at night need not exceed 42°. As soon as they have grown about five or six inches they should be stopped, which will induce them to make dwarf bushy plants. Keep them as near the glass as possible; this will insure a vigorous and sturdy growth, without which you cannot hope for future success. Fumigation must be strictly attended to; and in watering at this season of the year it is better to incline rather to the side of dryness than otherwise: the operation should however invariably be done in the morning, so that the house may become dry before closing, which should be done early, so as to dispense with fire heat as much as possible.

By February, if all has gone on well, the plants will be in a thriving condition, with from five to six shoots on each. If the intention is to exhibit, and I am presuming that that is the case, they should now be shifted into 24-sized pots, (which will be large enough for the first season), and encouraged to grow as freely as possible; the object in view being to obtain a large plant in the shortest possible time.

As they progress, the process of training must be commenced; a piece of string should be passed round beneath the rim of the pot, and the shoots gradually brought down; in doing this they should be arranged so as to form a frame-

work, on which, if I may use the expression, to build the future specimen; the shape of which should be that of a dwarf round bush. As the days lengthen, water more freely, and occasionally a little weak liquid manure may be given; that made from sheep or deer dung is the best. Give abundance of air on all occasions, as nothing spoils the pelargonium like "coddling" it.

By the middle of May a slight shade will be necessary during the heat of the day, but be careful not to have too much of this, as the plants are then young and sappy. There is now little else to be done except attending carefully to the watering. Before the plants come into bloom fumigate them two or three nights in succession, and exclude all bees.

When they have done flowering set the plants out of doors in the full sun, and give them only a moderate supply of water, in order that the wood may become well ripened before cutting them down, which may be done the third week in July. In performing this operation leave the shoots from six to seven inches long, bearing in mind the form of the plant. They should now be protected from heavy rains, and when they have "broken," and the shoots are about half an inch in length, the soil should be shaken from the roots, which latter should be pruned in, and the plants then put back into pots a size smaller. Place them in a pit and keep them close and well shaded during the day, giving plenty of air early in the morning to dry them off, a slight sprinkling will do good in the evening. Give sufficient water to keep the soil moist. When rooted, gradually inure them to light and air. They should be housed by the beginning of September, and receive their final shift into 8-inch pots by the end of October. In training, only a few small willow sticks will this season be necessary to support them. Attend in every respect to the routine recommended for the first season.

When the bloom is over, cut down, shake out, &c., as before, and this being the commencement of the season in which you are to exhibit, every attention will now be amply repaid.

The plants for the May shows should receive their final shift not later than the first week in October; and they should

be encouraged to make as much growth as possible before Christmas, in order that they may have a period of comparative rest in January, during which time they should be kept as cold as possible to thoroughly ripen the wood, without which neither quality nor head of flower will be obtained. Train carefully as soon as the shoots are sufficiently long, and arrange the latter so as to admit light and air to all parts of the plant. When the days begin to lengthen, the plants may be encouraged a little, by shutting up early on bright afternoons, and a little fire-heat will be occasionally required, but when used admit air at the same time. Occasional waterings with weak liquid manure will be beneficial, and fumigation should be strictly attended to.

Plants for June and later require similar treatment, but of course they will not want exciting so early as the others. Those for blooming latest may be stopped in February, and kept as cool as possible. When in flower, the blooms should be tied a few days before they are wanted for the show, and arranged so as to form as even a mass of blossom as possible. They should be carefully shaded from the sun, bees must be excluded, and the house kept as dry as possible.

The best description of house for the pelargonium is a "lean-to," which should be made as light as possible; the stage should slope at about the same angle as that of the roof, and it should not be further than five feet from the glass.

General Notices.

THE LILY OF THE VALLEY.—No plant exhibited at our spring meetings has attracted a greater share of admiration of late years than the lily of the valley. Its flowers have been produced in greater profusion, and the spikes have been much larger in size than we have been accustomed to see them in former years. On all sides we have heard questions asked like the following:—"How are such results obtained?—is it by superior cultivation, or are the larger and stronger flowering roots selected and put together just before the flowering season? or is it a different variety from our English favorite?" There is one question more which, had it been answered, would, I think, have explained the matter, and it is this: "Are the roots

grown in England or are they imported ones?" When over in Holland, in April last, I observed the plant extensively cultivated in the gardens about Haarlem, and in appearance it resembled very closely those exhibited at our spring exhibitions. The light sandy soil about Haarlem, which suits so many kinds of bulbs and tubers so well, appears to be highly favorable to the growth of the lily of the valley. If those plants seen at our exhibitions were grown from imported roots, and of this I have no doubt, the circumstance will readily account for their high quality as well as for their late flowering property, which so puzzled, for a time, the talented writer of the article on In-door Gardening, published in these columns a few weeks ago.—(*Gard. Chron.*)

THE INFLUENCE OF SCIONS ON THE STOCKS ON WHICH THEY ARE WORKED.—There are certain fruit trees which, do what you will, do not increase in diameter below the scion at the same rate as the scion itself. The consequence of this is the formation of ugly rings where the scion joins the stock. Other scions of the same stocks produce nothing of the sort. What explanation can be given of this, if scions have no influence on the stocks on which they are grafted? Is not the influence, moreover, very natural, and if there is any room for astonishment is it not because the influence cannot be more frequently traced? Let us remember that sap rises through certain vessels and descends by certain others, and passes upwards from stock to the scion, and downwards from the scion to the stock. We know that the sap is changed in its passage from the stock to the scion, for the taste of the fruit and the improvements produced according as this or that scion is grafted on this or that stock, all prove this; why, then, it may be asked, should not the sap be also changed in its downward passage from the scion to the stock? If no such double change takes place, if there is only one kind of sap circulating in stock and scion, this one mixed sap must at any rate be admitted to result from two different processes, one of which is carried on in the scion and the other in the stock. As the scion is modified in its fruit, its leaves, its growth, its vitality, it is quite natural that the stock should be also modified in its constitution by the graft. On the contrary, it would be surprising if this mixed sap had no influence on the stock or its roots, or their vital force or power of assimilating those mutative matters which pass through them into the whole substance of the plant.—(*Journal de la Société Impériale, &c.*)

SPIRÆA CALLOSA.—While walking in a friend's garden the other day, I was much struck with the appearance of a plant, the tips of which were brilliant with crimson leaves. Upon looking close I found it to be my old friend *Spiræa callosa*, but being placed on the west side of the walk, the rays of light from the setting sun caught it and produced an effect scarcely to be believed unless seen. How often do we find the same plant wasted by being unskilfully situated? No doubt where it is in blossom it is a universal favorite, from producing so many sprays of beautiful little pink chintz-like flowers, but when out of bloom, unless planted very judiciously

it looks like nothing at all, no better than any other plant of a similar kind. You may pass and re-pass it, and never care to ask what it is. A few years ago this *Spiræa* was quite a rarity. But now, thanks to the improvement which has taken place in all horticultural affairs, a plant cannot long remain unknown, for when once seen by the public, if it is only hardy, it soon finds its way everywhere. It is not, however, every one who, when they obtain a nice plant, think it necessary to ask themselves which is the best place in their garden for it to be seen to advantage, but having a gap that wants filling up, in it is popped. No wonder, then, that what we so much admire in our neighbor's garden, looks nothing particular in our own. One thing should always be remembered in planting *Spiræa callosa*, namely, to place it on the west side of your walk, where the evening sun will strike it. You may then walk up and down the path admiring the beautiful glowing effect of its foliage, which, instead of being transient-like flowers, lasts months and months to enliven your garden.—(*Gard. Chron.*)

ORCHARD HOUSES.—In the erection of orchard houses Mr. Pearson has exchanged the flimsy structures in vogue in the early days of orchard-house experiment, and has built plain substantial structures, and as he has advanced in experience he has even increased the strength and durability of his houses. The first house we enter is 90 by 30 feet, an elegant, well-proportioned house. The sheets of glass with which it is glazed are 18 inches by 24. Ventilation is from the sides and roof. A certain character is given to the interior of the house by the wood-work being painted blue. This house is chiefly filled with peaches in pots, of which there are upwards of a hundred, averaging six to seven feet in height, and each tree bearing one and a half to three dozen peaches. The trees thus loaded with fruit, and circumscribed in their root action, nevertheless exhibited no signs of failing vigor, but on the contrary are uniformly robust, clean, and healthy; watchful eyes and careful hands keeping every branch within due bounds. It is evident that the system of early repression of growth by pinching is of the utmost importance in orchard-house management. Trees stimulated to luxuriant growth may be pruned back, but in doing so a preponderance of roots remains, the balance between the two, root and branch, is disturbed, an excess of sap pushes on an unnecessary lateral growth, and the fruit-bearing powers of the trees are impaired. Axiom in horticultural practice—disproportionate root power is inimical to fruitfulness.

It is impossible to visit a house like this, filled with compact fruitful trees, and not to be impressed with the many advantages presented by this plan of growing fruit and notably peach trees. An unailing supply of fruit seems the assured reward of the skilful cultivator—a delightful variety in quality and character of the fruit can be secured. The ripening period may be extended by including in the collection the earliest and latest sorts, so that the peach season may be prolonged for three months. The advantages given to a nurseryman anxious to test the merits of different varieties, is an appreciable one when verity of description is felt to be a conscientious obligation.—(*Gard. Chron.*)

Gossip of the Month.

CATALOGUES, &c., RECEIVED.—Ellwanger & Barry's Descriptive Catalogue (No. 2) of Ornamental Trees and Shrubs, Roses and Flowering Plants, &c. &c. 1863. This is a very complete and handsome catalogue (73 pages) illustrated with engravings of many of the choice new Weeping Trees. Also,

Wholesale Catalogue (No. 4), or a Trade List of Fruit and Ornamental Trees, Shrubs, Roses, Dahlias, Bulbous Roots, &c. &c. for Autumn of 1863, from the same establishment.

Descriptive Catalogue of Strawberries, grown and for sale by Francis Brill, Newark, N. J., 1863-64. A very fine collection of fifty varieties.

Tenth Report of the Ohio Pomological Society, embracing the meetings at Columbus, Cincinnati, Kelly's Island, and Cleveland, with a eulogy on A. H. Ernst, Esq., late President of the Society, and a Memoir of the late N. Longworth, Esq. 1863.

Biographical Memoir of W. D. Brincklé, M. D., as read on invitation before the Pennsylvania Horticultural Society, March 24, 1863. By E. B. Gardette, M. D.

Massachusetts Horticultural Society.

Saturday, September 5th, 1863.—An adjourned meeting of the Society was held to-day, the President in the chair.

F. Parkman, from the Committee appointed for that object, reported that three classes of certificates be awarded by the Society, for corresponding degrees of merit, of contributors of Flowers, Fruits, and Vegetables, or for skill in cultivation. The report was accepted, and the same committee authorized to ascertain the probable cost of procuring the certificates.

A letter was read from J. C. Mitchell, Esq., President of the Pennsylvania Horticultural Society, requesting the Massachusetts Horticultural Society to send delegates to the Annual Exhibition of the former association, to be held September 16 and 17. The President appointed several gentlemen as delegates.

A Committee to nominate officers for the ensuing year was nominated by the chair, and the following gentlemen elected:—Jos. Stickney, C. O. Whitmore, J. S. Cabot, W. R. Austin, F. Burr, P. Barnes, and F. Parkman. Meeting dissolved.

THE 35TH ANNUAL EXHIBITION was held at the Rooms of the Society, corner of West and Washington Streets, on Tuesday, Sept. 22, continuing to Friday, 25th.

Owing to the limited accommodations of the Hall, the exhibition was not so large as usual, but to make up for this it was more select: no large contributions of fruits were shown, the quantity being limited to the prizes offered. The plants were all very choice and fine. The cut flowers were liberally contributed, and made a superb display, the space being ample for them; on the whole the exhibition was exceedingly fine. The plants occupied a table in the centre of the Hall, and around them was a broad table for the fruits.

The grapes were displayed in the library, and the room below was filled with vegetables. Considering the season, and the general scarcity of fruit, the Exhibition was eminently successful.

PLANTS IN POTS. The display of these was never equalled even in the larger halls of former years; the quantity may have been more but the kinds more common. This year they were mostly variegated-leaved plants, and well-grown specimens. Hovey & Co. contributed upwards of forty plants, among them *Latania borbonica*, *Yucca pendula*, *aloifolia* var., and *filamentosa* var., *Rhopalas*, *Caladiums*, *Dracænas*, *Cissus*, *Mikania speciosa*, *Coleus Verschaffelti*, *Fuchsia Meteor*, &c., Six *Begonias*, Six *Ferns*, among them the beautiful *Pteris albo cretica*, and *P. argyrea*; also a fine plant of *Pandanus javannicus variegatus*. Jas. Comley, of Worcester, sent a fine collection of 30 or 40 plants, viz.: *Yucca aloifolia* var., a large specimen, the new *Cissus porphyrophyllus*, the showy *Ananas sativa variegata*, *Caladium Chantini*, *Belleymei*, *picturata*, and several others, *Begonias* in variety, *Marantas* and *Dracænas*, *Ferns*, and other plants. From D. Zingerble, a collection of similar plants, containing *Caladiums Chantini*, *argyrites*, *picturata*, and others. *Coleus Verschaffelti*, *Latania borbonica*, *Maranta albo lineata*, and *regalis*, *Tillandsia*, *Ferns* of several kinds, *Begonias*, &c. The plants were generally well grown and handsome specimens. From C. M. Atkinson, gardener to J. G. Cushing, came a magnificent *Cissus* discolor, pyramidally trained about five feet high. I. Sargent, Esq., also sent a smaller *Cissus*, but well trained; also six very large and fine *Begonias*. G. W. Harding sent six *Coxcombs*, dwarf and well grown, with very large heads of flowers. Messrs. Strong and Spooner filled a large table in the Entrance Hall with choice *Evergreens* and other plants in pots. Messrs. Washburn & Curtis sent six *Lycopods*, grown in large pans and very handsome; also *Coleus Verschaffelti*; they also sent a *Wardian case*, filled with choice plants, which were in fine health and perfection.

BOUQUETS. The bouquets were wholly confined to those for the parlor and hand, which were offered fresh every day for premium; these were from M. P. Wilder, J. Nugent, Washburn & Curtis, Hovey & Co., M. Trautman, and Jas. Hogan; quite a number of baskets of flowers were sent by lady contributors, which added quite a pretty feature to the show.

CUT FLOWERS were contributed liberally, and the several stands were arranged with unusual taste, and added very much to the interest of the Exhibition. Conspicuous was the display of Messrs. Strong & Spooner, which contained a great number of fine *Gladioli*, as did also that of Washburn & Curtis, with *Japan Lilies* and *Dahlias*. Hovey & Co. had a splendid

lot of Asters, and a grand array of Japan Lilies in their stand. Messrs. Breck, Nugent, McTear, Flynn, and others, kept up a fine show. Mr. D. Murray sent a very large collection of native flowers, which attracted much attention. Every Saturday during the season Mr. M. has presented them, but this display far exceeded in quantity those previously contributed.

DAHLIAS. These were shown for prizes, and though but few competitors, they were numerous and fine. Among the varieties were less new ones than usual, but the older sorts were never seen in better condition. The principal kinds in the stands were Triumph de Pecq, Alba multiflora, Mr. Stocken, Warrior, Loveliness, Jenny Austin, Goldon Drop, Ethel, Pluto, Splendid, Geo. Elliott, &c., &c.

The award of Premiums was as follows :

PREMIUMS FOR PLANTS, FLOWERS, &C.

PLANTS IN POTS.—For the best collection of twenty plants, to James Comley, \$25.

For the next best, to Hovey & Co., \$20.

For the next, to D. Zingerble, \$16.

SINGLE SPECIMEN.—For the best, to C. M. Atkinson, for *Cissus discolor*, \$6.

For the next, to I. Sargent, for the same, \$4.

For the next, to J. McTear, for *Frenella* sp., \$3.

For the next, to I. Sargent, \$2.

VARIEGATED-LEAVED PLANTS.—For the best, to Jas. Comley, \$10.

For the next, to Hovey & Co., \$8.

For the next, to D. Zingerble, \$6.

VARIEGATED PLANT.—For the best, to Hovey & Co., for *Pandanus variegatus*, \$6.

For the next, to J. Comley, for *Crotan nobilis*, \$3.

BEGONIAS.—For the best, to J. Comley, \$4.

For the next, to Hovey & Co., \$3.

FERNS AND LYCOPODS.—For the best, to Washburn & Curtis, \$4.

For the next, to Hovey & Co., \$3.

DAHLIAS.—For the best 24 named varieties, to Hovey & Co., \$8.

For the best 18, to Edward Flynn, \$6.

For the best 12, to C. J. Power, \$4.

For the best 6, to Ed. Flynn, \$3.

Best specimen bloom, to Washburn & Curtis, \$2.

Next, to Hovey & Co., \$1.

On the last day other prizes were awarded, as follows :

Best 24, to Hovey & Co., \$6.

Next best, to Ed. Flynn, \$4.

Best specimen bloom, to Hovey & Co., \$2.

Next best, to Ed. Flynn, \$1.

PARLOR BOUQUETS, (First day) First to Washburn & Curtis, \$5.

Second, to John Hogan, \$4.

HAND BOUQUETS.—(First day) For the best pair, to Washburn & Curtis, \$3.

Next best, to Hovey & Co., \$2.

CUT FLOWERS.—For the best display, to Strong & Spooner, \$15.

For the next, to Washburn & Curtis, \$12.

For the next, to J. Nugent, \$10.

For the next, to J. McTear, \$8.

For the next, to Ed. Flynn, \$6.

FRUIT.—The rather unpropitious season it was thought would prevent a fine display of fruit. So far as quantity was concerned this was correct, but in quality there was but little if any falling off from last year. In fact, some of the specimens were never before shown in such fine order. Louise Bonne of Jerseys were an almost total failure, not one superior dish being exhibited. The Duchesses generally were poor. On the other hand, the Sheldon, De Tongres, Doyenné du Comice, Beurre Bosc, &c., were extra fine. The Sheldons of Hovey & Co. were superb; the Beurre Diels of Messrs. Davis and Butterfield, the Beurre Bosc of Messrs. Nudd and Stickney, the Beurre Superfin of Capt. Austin, and the Bartletts of several contributors, were very large, handsome, and fine. Of apples there was only a moderate show; the finest were from Mr. Clapp, whose Gravenstein, Porter, Washington, and some others, were extra. Foreign grapes, with a few exceptions, were rather ordinary; scarcely any of the Hamburgs were fully colored. The bunches of Black Prince, from G. W. Harding, were the best we ever saw of this fine variety, very large and jet black. The Cannon Hall of Mrs. Durfee were immense berries, but hardly ripe enough to look well. Barbarossa, from R. S. Rogers of Danvers, were large bunches but not quite colored. Other specimens were excellent, but we have not space to name them.

The show of native grapes was the best ever made in the country. The specimens were not only numerous but excellent, many of them extra; upwards of twenty fine varieties were put upon the tables, embracing all the new sorts lately brought to notice. We noticed the Delaware, Concord, Rebecca, Crevelling, Union Village, Hartford Prolific, Diana, Winchester, (Brackett's,) Framingham, Isabella, Rogers' No. 15 & 4, Allen's Hybrid, with many others, and some new seedlings. All the above, with the exception of the Rogers grapes, were nearly or quite ripe. Some ConCORDS from T. Rice, Jr. of Newton, were the admiration of all grape growers; the bunches were very large, perfectly ripe, and beautiful, showing it be quite up to all that has been said of it. Allen's Hybrid was also ripe; it is a great acquisition. Nearly 200 plates of grapes were on exhibition.

PREMIUMS AND GRATUITIES FOR FRUITS.

APPLES.—For the best 20 varieties, to F. Clapp, \$20.

For the second best, to Asa Clement, \$16.

For the best 15 varieties, to J. Eustis, \$8.

For the best 10 varieties, to J. Gilbert, \$8.

For the best 5 varieties, to J. W. Foster, \$6.

For the next, to Bowen Harrington, \$5.

For the third, to W. W. Wheildon, \$4.

For the best 12 apples, to F. Clapp, for Gravenstein, \$5.

For the next, to J. Nugent, for Porter, \$4.

For the next, to J. A. Stetson, for Northern Spy, \$3.

For the next, to Asa Clement, for Foundling, \$2.

PEARS.—For the best 20 varieties of 12 specimens each, to H. Davis, \$25.

For the next best, to H. Vandine, \$20.

For the next, to Hovey & Co., \$16.

For the best 15 varieties, to J. Stickney, \$15.

For the next, to W. R. Austin, \$12.

For the next, to C. N. Brackett, \$10.

For the best 5 varieties, to J. L. DeWolf, \$6.

For the next, to J. Eaton, \$5.

For the next, to G. W. Wilson, \$4.

For the best Bartlett, to J. C. Park, \$5.

For the best Seckel, to H. Davis, \$5.

For the best Swan's Orange, to G. W. Wilson, \$5.

For the best Louise Bonne of Jersey, to J. R. Poor, \$5.

For the best Urbaniste, to J. Nudd, \$5.

For the best Beurre Diel, to H. Davis, \$5.

GRAPES, FOREIGN.—For the best 3 bunches of Black Hamburgh, to W. H. Barnes, \$5.

For the next, to J. W. Foster, \$4.

For the best 3 bunches of any other black grape, to H. S. Mansfield, \$4.

For the best 3 bunches of white grapes, to W. H. Barnes, \$5.

For the next, to H. S. Mansfield, \$4.

For the best 2 varieties, to G. W. Harding, \$5.

For the next, to W. H. Barnes, \$4.

For the next, to R. S. Rogers, \$3.

For the next, to C. S. Grant, \$2.

For the best collection, to Mrs. F. B. Durfee, \$10.

For the next, to Jos. Breck, \$8.

NATIVE GRAPES.—For the best Delaware, to Hervey Davis, \$4.

For the best Diana, to C. M. Atkinson, \$4.

For the best Isabella, to C. E. Grant, \$4.

For the best Concord, to F. Dana, \$4.

For the best Hartford Prolific, to Strong & Spooner, \$4.

For the best of any other sort, to Strong & Spooner, for Allen's Hybrid, \$4.

GRATUITY.—To R. S. Rogers and F. Dana, for Foreign grapes, \$3 each.

To O. Bennet, for Framingham grape, a new seedling, \$2.

To C. M. Atkinson and C. N. Brackett, for Delaware, \$2 each.

To B. R. Davis and C. J. Power, for collections, \$2 each.

To E. A. Brackett, for Winchester and Iona grapes, \$2.

To N. J. Cass, for Isabella, \$1.

To H. Vandine, for collection, \$2.

To S. P. Wellington, for Isabella, \$1.

To F. Dana, for Union Village, \$1.

- To Asa Clement, for collection, \$1.
 To Strong & Spooner, for collection, \$3.
 To T. Rice, Jr., for Concord, \$2.
 To W. H. Harrington, for Rogers, \$2.
 To C. J. Sprague, for Isabella, \$1.
 To C. E. Grant, for Rebecca, \$2.
 To Strong & Spooner, for Crevelling, \$2.
 To Mrs. C. D. Hancock, for Bartlett Pears, \$2.
 To M. P. Wilder, for collection of pears, \$10.
 To S. Sweetser, for the same, \$5.
 To G. B. Wilbur, for the same, \$5.

VEGETABLES.—The show of vegetables was not large, but very superior in quality. We have never seen better squashes, particularly Marrows. We noticed some very fine Tree Tomatoes, and large round Egg Plants; also superior Burr's sweet corn. Numerous prizes were awarded, but we have no space for the insertion of the list.

Horticultural Operations

FOR OCTOBER.

FRUIT DEPARTMENT.

The month of September has been rather cooler than the average,—and a slight frost occurred on the morning of the 24th, but doing very little injury.

GRAPE VINES in the earliest houses will now be ready for forcing; commence with a very moderate temperature, and syringe the wood freely to secure a good break. Cover the border with leaves or light manure, to retain the warmth, and shelter from heavy cold rains. A temperature of 50° to 55° at night will be ample for the first fortnight. Vines in ordinary graperies and greenhouses will now be at rest maturing their wood; in greenhouses all the young green wood may be shortened in, and the larger leaves taken off, to admit the light to the plants. Vines in cold houses that have not had their fruit yet cut should be kept warm and dry, to prevent the rotting of the berries. Air freely in good weather, to thoroughly ripen the wood. Vines in the open air may be pruned the last of the month; it is the best season; after that they may be laid down and protected with earth or litter.

STRAWBERRY BEDS should be kept clear of weeds, as it is the present month that the plants mature their wood and set well for fruit. A light top dressing of old manure will help the old beds to produce a better crop. Plants for forcing should be placed in frames where they can be sheltered from heavy rains and severe frosts.

FRUIT TREES of all kinds may be transplanted this month.

FRUIT TREES IN POTS should be protected from heavy rains, and placed in a good situation where they will thoroughly ripen their wood.

FRUIT should all be gathered immediately; even late pears improve but little after the middle of October.

TRENCH and prepare ground for planting the present autumn or next spring.

FLOWER DEPARTMENT.

By this time all the more tender plants should be arranged in the houses, and the more hardy placed in frames where they can be protected from hard frosts. Many things do much better in frames than to be crowded into the houses. Keep the houses as cool as possible, unless they are intended for forcing flowers into bloom.

AZALEAS should be put into the house immediately, if not already done. The late fall rains and cold nights are apt to injure the buds. Place in the coolest part of the house, and water sparingly for the present. Improve leisure time to tie in and make handsome specimens.

CAMELIAS should be syringed in good weather, and watered rather sparingly till the buds begin to swell.

CHRYSANTHEMUMS should be freely watered with liquid manure. Remove to the house, or protect in places where the frost will not injure them.

ROSES intended for winter blooming should be placed in frames and protected from frosts. Introduce a few of them into the house, from time to time, as they are wanted.

BEGONIAS now having made their growth may be allowed to dry off, unless there is plenty of room to grow them in a good heat.

HEATHS should be protected in frames; they do much better than to be placed in the house.

NEAPOLITAN VIOLETS should be potted and placed in a frame.

CINERARIAS should be kept in a frame as long as the weather will admit.

PELARGONIUMS should be kept cool and rather dry, placing them as near the glass as possible. Young plants just potted off should have a place on a cool shelf where they will have an abundance of air. Every effort should be used to get a strong, stocky growth, on which future success depends.

FLOWER GARDEN AND SHRUBBERY.

Although late in the season, the lawns and walks should not be neglected. Roll and mow till all growth ceases. After the frost has destroyed tender plants clear them away and rake and clear the ground.

LILIES of all kinds should be planted this month.

PÆONIES may now be transplanted; it is the best season.

HERBACEOUS PLANTS may now be divided and reset.

NEAPOLITAN VIOLETS in frames should be protected from frosts.

DAHLIAS should be taken up before severe frosts.

GLADIOLUS should be taken up, dried, and placed away in bags out of the reach of frosts.

ERYTHRINAS should be taken up before heavy frosts.

HYACINTHS, and all other winter bulbs, should be planted now.

THE POPULAR FRUITS.

WE have already alluded, in our notice of the Proceedings of the last Meeting of the American Pomological Society (XXVIII., p. 433) to the Catalogue of Fruits, prepared under the direction of a Special Committee, appointed at the previous session in Philadelphia, and published with their doings of the last session. At that meeting the subject of preparing local catalogues, or lists of fruits, adapted to the different sections of the country, north, south, east, and west, was discussed. Some members contending that many fruits were so local, that out of the vicinity of their origin they were, comparatively, of little value; while others thought that though some few fruits might be subject to this rule, the great majority were equally good in all sections of the Union, unless in the extreme South, where, as yet, there has been too little positive experience to decide the question, and consequently there was no necessity for such local lists. It was, however, decided, in order to supply the want of such information, if it existed, to prepare a Catalogue, showing the estimate in which every fruit was held in every portion of the country, that their local value might be correctly ascertained. A Committee, consisting of P. Barry (Chairman) J. S. Cabot, J. A. Warder, C. Downing, C. M. Hovey, and Wm. Reid, with M. P. Wilder, the President, *ex officio*, was chosen for this object, who were to report at the next session. A circular was addressed to the various State and District Committees, requesting them to prepare and forward their reports at an early a day as possible. The Committee met together at Albany, N. Y., as early as January, 1862, and, after much consideration, matured a plan of the Catalogue, which was necessarily to be as condensed as possible with the objects intended; and during the summer Mr. Barry made up, from the State and District Reports which had been received, and from those previously published, where none were forwarded, the entire Catalogue, arranging the names alphabetically, and

giving no less than *thirty-five* different localities. Thus in 50 pages are comprised the names of many hundred different fruits, and their value in their respective localities. The places from whence no reports were received are Canada East, Kansas, Minnesota, Northern Michigan, New Hampshire, Nebraska, and Wisconsin. Several of these states have as yet but little experience in fruit culture, upon which to base reports, but it is hoped that at the next meeting of the Society these deficiencies will be supplied.

The result of this thorough revision of the Catalogue of Fruits, fully, we think, sustains the opinion we expressed at the meeting in Philadelphia, in 1860, viz., that although there are some local fruits which are more popular in the vicinity of their origin than others introduced, on the whole, those which are popular in one section are equally so in another; so that, in fact, the Catalogue only affirms in detail what we had thought the general character of fruits. The fact that some local fruits give so much satisfaction, is not because they are better, or even as good as others, but because they have been long tried, while the newer and less known sorts have not had that long and attentive culture which is necessarily required to test their real value. Thus it will be seen the Bartlett pear succeeds everywhere, as does the Seckel, the Buffum, and others. The range of climate suited to the cultivation of fruits is very great, and it is much less this than improper soils, or improper cultivation, which lessen or increase their quality and relative value. We think we have seen in our own grounds as much variation in the character of many fruits, as there has ever existed in the whole section of country, north of Virginia.

This, however, detracts nothing from the excellence of the Catalogue. Here we have the estimate of every variety in every section of the country, so far as could be learned from State or District Reports; and from the plan of the Catalogue, with but the addition or alteration of a star in each column, the further experience gained in any of the localities can be recorded every two years, when the Society meets, so that it will serve as a sure guide to the general cultivator in any part of the country.

One thing, however, should be remembered by those who are planting fruits, in any particular section, that many of those varieties which are not considered valuable by the State or District Committee of that section, is often owing to want of experience in their cultivation. Thus in Massachusetts the Merriam pear is double starred (**), a mark indicating that it "is recommended as being of great superiority and value in that locality." Now this pear has not even a single star (*) in any other state in the Union, showing that it has not been cultivated elsewhere, or no reliable information has been obtained as to its value. To reject it in a distant locality for this reason would be very unwise. Other fruits we might notice, which are of the same character. The object of the Catalogue is to distinguish all the reliable fruits, but not to give the inference that many others will not prove to be equally valuable.

It is not our intention to record here all the fruits which have been commended by the respective Committees, and enumerated in the Catalogue, with the locations in which they are deemed valuable, but merely to give those which are of great superiority: such are the double starred kinds, which we may regard as the "popular fruits." Thus the Catalogue enumerates, 1st, the name; 2d, the season, and 3d, the use (whether for cooking or the table.) Then follow 35 localities, embracing the States north of the Southern line of Virginia, Tennessee, and Missouri. A single star (*) indicates that any fruit is recommended in each locality, and those of great superiority and value by two stars (**). It is this last class only that we shall name. We begin with the apples.

APPLES.

Astrachan, Red, Missouri, Eastern N. Y. and West. N. Y.
 Baldwin, Connecticut, North. Indiana, Mass., East. N. Y.
 Bough, West. N. Y., North. Ohio, New Jersey, Rh. Island.
 Bellmont, Dist. of Columbia, Connecticut, and West. N. Y.
 Bellflower, Yellow, Western New York, and South. Ohio.
 Broadwell, Northern Indiana.
 Carolina Red June, Kentucky, Missouri.
 Cannon Pearmain, Southern Ohio.

- Cornell's Fancy, Eastern Pennsylvania.
Early Harvest, Connecticut, Kentucky, Missouri, Eastern New York, Western New York, and Southern Ohio.
Early Strawberry, Western New York.
English Russet, Connecticut.
Fallwater, Central Ohio, East. Central and West. Penn.
Fall Pippin, Southern Michigan, Nebraska, Eastern New York, and Rhode Island.
Fall Queen of Kentucky, Missouri.
Fameuse, Western New York and Vermont.
Golden Russet of Western New York, Western New York.
Golden Russet of Mass., Connecticut and Eastern Penn.
Golden Sweeting, Western New York.
Gravenstein, Mass., East. and West. N. Y., Rhode Island.
Hubbardston Nonsuch, New York, Connecticut, Southern Michigan, Massachusetts, Rhode Island.
Jonathan, Southern Indiana.
Jewett's Fine Red, Vermont.
King of Tompkins County, Western New York.
Maiden's Blush, Southern Ohio and Kentucky.
Monmouth Pippin, Western New York and New Jersey.
New York Pippin, Northern and Southern Indiana, Southern Illinois, Kentucky.
Newtown Pippin, Missouri.
Northern Spy, Northern Indiana, and East. and West. N. Y.
Ortley, Missouri.
Peck's Pleasant, West. New York, Rhode Island, Vermont.
Porter, Western New York, New Jersey, and Rhode Island.
Primate, Western New York.
Progress, Connecticut.
Pryor's Red, Southern Illinois and Missouri.
Rambo, Northern Ohio.
Rawle's Janet, Southern Indiana, Northern, Central and Southern Illinois, Kentucky, and Missouri.
Red Canada (Old Nonsuch), South Michigan.
Rhode Island Greening, Connecticut, Southern Michigan, Eastern and Western New York, New Jersey, Northern Ohio, Rhode Island.
Ridge Pippin, Eastern Pennsylvania.

- Roxbury Russet, Connecticut, Southern Michigan, Eastern and Western New York, New Jersey, Rhode Island.
 Rome Beauty, Southern Indiana, Central Ohio.
 Saint Lawrence, Vermont.
 Smith's Cider, Southern Indiana, Central Illinois, Missouri, New Jersey, Central Ohio, Eastern Pennsylvania.
 Spitzenberg, Esopus, Nebraska, and Eastern New York.
 Smokehouse, Eastern Pennsylvania.
 Tolman Sweeting, Eastern and West. New York, Vermont.
 Twenty Ounce, Western New York.
 Vandevere of N. Y., Southern Michigan, West. New York.
 Waggener, Northern Indiana.
 White Pippin, Southern Indiana, Central Ohio.
 White Winter Pearmain, Southern Illinois, Missouri.
 Wine Sap, Northern and Southern Indiana, all Illinois, Kentucky, Missouri, all Ohio.
 Willow Twig, Northern and Central Illinois, Missouri.
 Williams's, Massachusetts, Rhode Island, Vermont.

PEARS.

- Belle Lucrative, Eastern and Western New York.
 Bartlett, Maryland, Mass., Eastern and Western New York.
 Beurré d'Anjou, Massachusetts, East. and West. New York.
 Beurré Easter, Western New York.
 Doyenné Boussock, Mass., Eastern and Western New York.
 Duchesse d'Angouleme, Western New York.
 Flemish Beauty, Eastern and Western New York.
 Lawrence, Eastern and Western New York.
 Louise Bonne de Jersey, Mass., East. and West. New York.
 Merriam, Massachusetts.
 Swan's Orange, Massachusetts.
 Sheldon, Western New York.
 Seckel, Maryland, Mass., Eastern and Western New York.
 Urbaniste, Massachusetts, Eastern and Western New York.
 Vicar of Winkfield, or Le Curé, Massachusetts.
 Winter Nelis, Eastern and Western New York.

The only other fruit double starred, in the whole Catalogue, is Hovey's Seedling Strawberry.

We have room for only a few comments upon the above List of Pears. It is certainly rather surprising that so few varieties are included in the list; but it indicates what is true, that notwithstanding so much attention has been devoted to pear culture, only a small number of the newer varieties have been introduced long enough to obtain reliable results; and Massachusetts, Eastern and Western New York, furnish most of the evidence of their excellence, showing that the great States of the West, and even Pennsylvania, are yet backward in the growth of this delicious fruit. How slowly, indeed, are many of the best pears introduced. The Andrews, Dix, Hanners, Heathcot, Fulton, Cabot, Wilbur, Columbia, Cushing, Hull, McLaughlan, Knight's Rhode Island Seedling, Lewis, and other native sorts, known twenty-five years ago, are only commended by two or three states; and but few of those of later, but still by no means very recent origin, are even commended by the Committees. Such are the Abbot, Adams, Howell, Boston, Pratt, Moore's, Collins, Hageman, Muskingum, Oswego Beurre, Philadelphia, &c.

To us who have trees ten or fifteen years old, bearing bushels of fruit of these sorts, it seems almost incredible to believe that varieties of so much merit should be scarcely known beyond the few collections of intelligent pomologists. The oft repeated opinion of many cultivators, that only a dozen sorts of pears are worth growing, reminds us of an anecdote related by an enthusiastic amateur, not long ago. With much care he had made a collection of 135 varieties of pears, all of superior quality, and felt delighted at the rich array of colors, sizes, shapes, and varied flavors of the fruit, as well as with the different habits, forms, and growth of the trees of the several kinds. Gathered at considerable expense and labor, he was just beginning to reap a rich reward. A taste of many other pears than those he already possessed, convinced him his collection was yet far too limited, and that further additions must be made. Recently a neighbor, after looking over his whole collection, wisely remarked, that he thought a dozen sorts comprised all that were worth anything. The amateur's reply was, that his opinion was not worth a—farthing.

SOME REMARKS ON WEEDS.

BY WILSON FLAGG.

THE work of Dr. Darlington entitled "American Weeds and Useful Plants," is a general treatise on plants appertaining to the farm and the garden, and is not devoted to weeds. His observations on weeds, in the Introduction to his work, are, however, very good; and as I propose in this essay to treat of some of the most conspicuous and common weeds of our gardens, without giving a botanical description of them, I will quote a few of Dr. Darlington's general remarks. He says: "In popular language, any homely plant, which is not noticeable for the beauty of its flowers, nor entitled to respect by a reputation for medicinal or other useful qualities, is designated by the epithet *weed*. In an agricultural sense, the term is used with a more restricted meaning, and is applied to those intrusive and unwelcome individuals that will persist in growing where they are not wanted; in short, the best definition that has yet been given of a weed is the old one, 'a plant out of place.' Most of the weeds troublesome in our agriculture are immigrants, either from the old world, or the warmer portions of this continent. The number of plants indigenous to our country, that are entitled to rank as pernicious weeds, is comparatively small. As the aborigines disappeared with the advance of the whites, so do the native plants generally yield their possession as cultivation extends; and the majority of plants to be met with along the lanes and streets of villages, and upon farms, are naturalized strangers, who appear to be quite at home, and are with difficulty to be persuaded or driven away."

The truth is that weeds, like useful plants, have been gathered from all countries and climes, and America has probably furnished her proportion of each. Weeds follow the path of agriculture everywhere, like certain pernicious insects, which are unknown in the forest, but become abundant in arable land, where their natural wants are more fully supplied. I should be disposed to qualify the definition of *weeds*, as given above, preferring to use the word rather in its popular than its agricultural sense.

Under the denomination of weeds, I should comprehend the most of those plants which are troublesome in the field or garden, and possess at the same time no beauty to recommend them to the eye, and no usefulness to entitle them to cultivation. A weed is, therefore, among plants the same as a bug among living creatures, a pest that interferes with our comfort, and in many respects with our thrift. I would not, however, call that plant a weed which happens to grow where it is not wanted, if at the same time it possesses useful or ornamental properties. The most beautiful flower might thus become a weed by position. Violets and tulips, would thus be out of place in a cornfield or in a parsnip bed; and some of the most valuable grasses would receive the condemnation and treatment which is due to weeds, if they happened to come up in a flower garden. I do not propose to treat of these conditional weeds; but will attempt to describe a few of the most important, that is, the most troublesome and least useful of those plants which infest our gardens and fields. One of the most conspicuous among them is the

Rumex acetocella. Sheep sorrel. I mention this plant as one that is important from its great abundance in field, garden, and by the wayside. It is destitute of every single pretension to beauty, and it is without utility. Hence it is a weed in the strictest sense of the term, neither delighting the eye nor captivating the imagination. It does not supply a single want, either of the mind or sense. It is, however, a representative of an important family of plants, including the rhubarb, one of the most valuable of medicines; and dock, the most celebrated of humbugs, in the practice of uneducated physicians, quacks, and self-conceited nurses. The sheep and the goat will eat sparingly of sorrel, as a condiment with their substantial meals of grass and nutrient herbs; and Frenchmen sometimes make a salad of it along with their fricasseed frogs. I have said that this plant possesses no beauty; but it must be admitted, that when it has taken complete possession of a field, it spreads over the surface a bright russet or rufous hue, that pleasantly variegates the landscape.

Chickweed. Stellaria and Cerastium. The chickweeds for the most part are true weeds, possessing their characteristic uselessness and want of beauty. There are two genera that bear this name,—the *Stellaria*, including the true chickweed, and the *Cerastium* or Mouse-ear chickweed. The only species that possess any beauty belong to the *Stellaria*. In this category, however, we should not include the common chickweed, (*Stellaria media*), the representative species. The only two that have any beauty are the Meadow Starwort, (*S. palustris*), and the common Stitchwort, (*S. graminea*). These two species differ not much except in size, the meadow starwort being considerably larger than the other. The Mouse-ear chickweed may be known and distinguished from the common chickweed by its viscid and hairy leaves, and its luxuriant growth.

Polygonum. Knotgrass, etc. A very interesting, though certainly not a beautiful genus of plants is the *Polygonum*. It comprehends a great many species, all distinguished, as the name implies, by the knotted or jointed character of their stems, resembling that of a bamboo. To this genus belongs the common knot grass, (*Polygonum aviculare*), a creeping weed, found growing abundantly in all our back yards, especially where the constant trampling of human feet keeps down other vegetation, and allows this weed, which, on account of the toughness of its fibre will bear a great amount of severe treatment, to retain possession of the grounds. Hence it is often most abundant right on the edges of a foot path which is constantly travelled. All grazing animals seem fond of browsing upon this weed.

P. Hydropiper. Water-pepper — Eye-smart. This weed is very generally known on account of its intense acrimony, which is so great that, after handling the herb, the application of the hands to the face and eyes produces great smarting. Hence its name. It is seldom found in dry places, though not uncommon in the ditches by rustic roadsides, after they have become dry from the summer drought. This species bears a close resemblance to the *P. persicaria*, and is very commonly mistaken for it. But the latter is without acidity. Each species grows in a wet soil, and resembles the other

in foliage; but they may be distinguished by the greater slenderness of the leaves of the Eye-smart, and the dark spot in the leaves of the *Persicaria*, which are wanting in the other. This spot is somewhat heart-shaped; and the species that bears the spotted leaves is always more luxuriant than the other, when found in the same situation. The *P. Persicaria* is called *Lady's Thumb*, in some books, probably from the swelled joints of the stem, which have some resemblance to a slender-formed thumb.

Birds are fond of the seeds of all the Polygonums, of which the common buckwheat is a well-known species. A short time since, some little boys brought into my yard a black-bird, which had been wounded in the wing. The wound was entirely healed, but the bird was caught because it could not run fast enough to escape. The bird was allowed to run about at liberty in the yard, which was overgrown with Knot-grass (*P. aviculare*). The bird, perhaps, had never seen this weed before; yet he immediately busied himself in picking out the minute seeds from its capsules, as dexterously as if he had always fed upon it. Weeds are undoubtedly useful in providing food for the granivorous or semenivorous birds, and cannot, therefore, be regarded as wholly useless in the economy of nature.

In the grass tribe, we cannot regard the sedges or the rushes as weeds; for though the plants of these genera are of but little value, they will not flourish in arable land, at least, if it be dry enough for any agricultural crop. The most of the weeds of the grass tribe are annuals; consisting chiefly of the *Panicums*, or panic grasses, well known by their broad foliage and their large seeds. These grasses are more luxuriant in their growth than the perennial or agricultural grasses, having in general a thick succulent stalk, like millet, and a considerable quantity of broad hairy foliage. The seeds are very nutritious, and are sought with great eagerness by birds. Their roots are very fibrous and penetrating, and seem to hold on to the soil with more determination than most other weeds, so that they are hard to be eradicated.

The most formidable weed among the perennial grasses is the *Couch grass* (*Triticum repens*). In different parts of

the country it bears different names; it is very generally called *Witch* grass, sometimes *Knot* grass, and in Worcester county it is known as *Chandler* grass, being called after the name of some unfortunate experimenter, who introduced it, with the expectation of making it profitable. It has a long, creeping, subterranean stem, or root, that penetrates the earth in all directions, and generally fills the soil so as to effectually destroy all other herbs and grasses. It is the most difficult of all weeds to eradicate from the soil, after it has obtained possession.

Ambrosia elatior. Ambrosia—Roman Wormwood. It can hardly be supposed that this offensive plant could ever be the food of the Gods, as the name would imply; being considered wholly useless for all human purposes, and pertinaciously rejected by grazing animals. Even the goat, when he deigns to taste of it, leaves it for the meanest of wild grasses. This weed grows everywhere, except in a very wet soil. The leaves are irregularly pinnate, or pinnatifid, and would not be entirely wanting in elegance if they were accompanied with handsome flowers, or were more deeply green. The pollen that comes from its inelegant flowers is extremely offensive, adhering to the clothing, when we pass through a field of it in August.

Another common, but less troublesome weed in cultivated grounds is the Hybrid Amaranth (*Amaranthus hybridus*). It resembles the amaranth of our flower gardens, except that it is green instead of crimson in its color. The flowers, forming large, green clusters, turn to a dull red, as they approach maturity. The *A. blitum*, or Low Amaranth, is a less conspicuous plant, of a similar character, with a spreading stem, and more tenacious, when we attempt to eradicate it from the soil.

Erigeron Canadense. Annual Flea-Bane. This weed, like the Roman Wormwood, is almost universal in our fields, and it is entirely destitute of utility or beauty. Perhaps of all weeds it is the most despicable. The leaf and the flowers are as ugly as any of nature's meanest productions—theyself, perhaps, the meanest of all. This is an American plant, which has propagated itself widely through the countries of Europe. The dirty downy heads of the flowers, when

they have gone to seed, are generally covered with small insects, which have got entangled in the down. Hence its English name.

Chemopodium album. *Hogweed.* Why this plant should be termed hogweed I am at a loss to tell. No respectable hog will touch it, unless to save himself from starvation. I have repeatedly observed that when weeds are thrown into a pig-pen the hogweed is left after the others have been eaten. I think, therefore, its name is simply a term of contempt, given to it, perhaps, by some disappointed salad-monger, who had experimented with it, as a pot-herb, and found it worse than Jeremiah's figs. This plant is sometimes also called *Goose-foot*, from the peculiar shape of its leaves. The red goose-foot is evidently only a variety of this species. There are two or three other species, which are, however, seldom troublesome as weeds.

Portulacca oleracea. *Purselene.* This is the only representative we have of a genus of annuals, some of which bear very beautiful flowers. This plant is not very ugly, nor indeed so troublesome as many other weeds; but the experiments made with it as a pot-herb are hardly more successful than those made with hogweed. It must be confessed that some of nature's productions are designed only to excite the watchfulness and industry of the tillers of the soil. While the farmer sows wheat, the Devil sows tares, for the moral improvement of a class of men who are generally thrifty and intelligent in nearly exact proportion to the difficulties thrown in the way of deriving profit from the soil.

The plant commonly denominated *tares* is the *Corn Spuney*, (*Spergula arvensis*). It is very common in cornfields, with spreading stems, linear leaves, and flowers white in panicles.

Arctium Lappa. *Burdock.* This is the monarch of weeds, and in certain situations it is very troublesome. A single plant is capable of covering a large space, with its broad heart-shaped leaves, and its numerous progeny will very soon spread over a large garden, and fix their tap roots almost inextricably into the soil. Its mischief is not confined to the field and the garden. When it has ripened its flowers the burrs fasten themselves upon the clothing of passengers, and annoy them, like the seeds of the Burr Marigold.

Bidens pumosa. *The Burr Marigold.* Every body is acquainted with this plant, at least after it has ripened its seeds, vulgarly called *Harvest Lice*. It grows in all situations, but most luxuriantly where the soil is wet. The leaves bear some resemblance to those of the Garden Marigold; but the flowers are ugly and inconspicuous. A species of this genus is found in our meadows, with fine golden-yellow flowers.

Urtica Dioica. *Large Stinging Nettle.* This plant is well known by its stinging properties, which proceed from certain tubular hairs, containing a poisonous fluid, apparently identical with the poison of the sting of a bee. It is more abundant by roadsides than in our gardens. The young shoots of this plant are sometimes used as a pot-herb. The necessities of mankind, at different periods, have prompted them to convert everything to some important use, that grows spontaneously in garden or by roadside. Hence the experiment of converting weeds into salads, which has proved as much as this, that nearly all succulent herbs, if they are neither very bitter nor very poisonous, may be made edible by the arts of cookery.

POMOLOGICAL GOSSIP.

NEW PEARS.—The production of new pears is increasing rapidly, and the number of superior American pears will soon surpass, if it does not already, those of foreign growth. We have tasted some dozen or more varieties, all of which a few years ago would have been called excellent, but which, after the addition of so many fine sorts, hardly come up to the high standard demanded for a new variety. But their introduction shows what we may expect when the growth of seedlings is set about in earnest, as we hope it will be now that the old notion is controverted, that seedlings from the best kinds do not go back to the normal type, but are more or less like the parent, often but little inferior, and occasionally better. The present season we have tasted a great number

of seedlings, several of which have been sent to us by the raisers, and others presented to the Massachusetts Horticultural Society, and tried by their Committee on Fruits, who will undoubtedly report upon their merits.

Dr. S. A. Shurtleff of Brookline has raised upwards of a dozen varieties, some of them very large, all very fair, and a few of them promising to be valuable. Mr. Clapp of Dorchester has four or five of fair quality. Hon. J. M. Earle, our correspondent, of Worcester, has three or four. Messrs. Ellwanger & Barry have sent us specimens of a seedling originated in Rochester, which is very fine. Mr. John Richardson of Dorchester has again sent us some of his seedlings from the Bartlett. We have made drawings and descriptions of many of these, and shall, ere long, give an account of them in our pages. The production of these only shows what continual efforts will do in raising new pears.

HOVEY'S SEEDLING STRAWBERRY.—Notwithstanding the long time this strawberry has been in cultivation, and the continued introduction of varieties said to be superior, it is gratifying to hear the reports which often reach us, two of which we select from letters now before us. The first of which is as follows:—

I have had a good number of the new varieties of strawberries, and am now going back to the Hovey, as I have found nothing that suits me as well.—Respectfully yours,
G. W. HALL, Waterbury, Conn.

Another reads thus:—

I have cultivated for my family use almost all the varieties now in market, and find the Hovey Seedling best, but I think my present bed may have somewhat run out, and think it advisable to get a renewal at fountain head.—Yours, ISAAC R. CORNEL, Weston, N. J.

We might add many more, but we give these as a sample of many letters which we have received during the year.

FEDORA GRAPE.—This is a seedling white grape, probably sprung from some foreign variety. This is manifest, alike by the richness of the fruit and the general appearance of the vine. It has been growing for the last few years in the neighborhood of Boston, in the open garden, and has borne

fruit three years successively. In the winter it is laid down, and covered with such leaves and garden rubbish as happened to be at hand. Its appearance (to which its preservation was owing) is good, indeed, it is a handsome vine, with full bright foliage. Its leaves are fresh, shining green, much smaller than the Sweetwater, and more delicate and smooth. It is a good grower, and the present year, the fourth in its present position (for it has been moved about a good deal) it has put forth an abundance of strong healthy wood. The fruit bunches about the size and shape of the Isabella, the larger ones shouldered. One of the present autumn, measures six inches in length and four and a half in breadth, at the shoulder. The berries are round, somewhat larger than the Sweetwater, about the size of the Isabella, and stand as thick on the bunches. The skin is thin, translucent, pale yellow, except when exposed to the sun, which is then more amber colored. The flesh is firm, delicate, rich, juicy and sweet *throughout*. Ripens as early as the Concord. A Concord stands just by it, and the fruits seem to ripen together.

No special care has been given to the cultivation of this vine. It is growing in the middle of a small garden, without protection, and supported on a simple pole. Indeed, not expecting anything from it in the beginning, it lived and grew by sufferance; and may be said to have *forced* its way (like certain plants of another race) into notice and favor. In compliment to the person who was the occasion of its rescue from obscurity, and subsequent cultivation, the name has been given it—*Fœdora*. C.

The above description, with a specimen of the grape, has been sent to us by the gentleman who has the vine growing in his garden near Boston. So far as we could judge it is a foreign grape, though it may be an accidental hybrid. It has much the appearance of Allen Hybrid, and if as hardy would be valuable. We shall endeavor to learn more of the origin and characteristics of this new variety.

FLORA GRAPE.—This is the name of a variety we noticed at the Exhibition of the Pennsylvania Horticultural Society in September last. It was presented by A. M. Spangler, Esq., and the Committee, in their Report, state that “it maintains

its former good reputation." The grape is a dark purple grape, thickly set in the bunch, like the Delaware, but considerably larger, though not so large as the Isabella. It has a very thin skin, with little or no pulp, and from a casual taste appeared to be a very fine variety. If the vine is a free grower, and the fruit early, it will rank among the few superior new grapes.

THE YEDDO GRAPE.—A young vine of this new wonder was shown at the same Exhibition, from the Hon. Isaac Newton, Commissioner of Agriculture at Washington, who has now growing in the garden of the Department a number of vines. It has a leaf more like some of our native than the foreign grapes, and may possibly prove hardy. What the merits of the fruit are, is only known from what has been already recorded in our pages, from Mr. Fortune, who introduced it to English gardens. These vines will probably be distributed among our prominent nurserymen for trial.

HOWELL GRAPE.—This is the name of a new variety, grown by Mr. Ed. Tatnall of the Wawoset Nursery, Wilmington, Del. The Gardeners' Monthly says, "We think very highly of it on account of its earliness and comparative good quality." It came to hand on the 4th of September, perfectly ripe, and of a jet black color. The berries are small, not much larger than a good sized Delaware, and the bunch is not much above medium. It is not near as good quality as the Delaware or other grapes of a later season; but superior to Concord, Hartford Prolific, or others of its time. Its faults are a thickish skin, and too firm a pulp, but it is, on the whole, a much better grape than many that have been "let out" with a loud explosion. This is not a very great character for a grape to be "thought very highly of" by the editor, and we fear the time has gone by when a small thick skinned pulpy grape will answer.

THE IONA GRAPE was exhibited at the Annual Exhibition of the Massachusetts Horticultural Society, by E. A. Brackett. This new variety is a dull reddish colored berry, with loose, long bunches, slightly shouldered, thin skinned, sweet, well flavored and good. The objections to it are its color, loose habit, and medium sized berries. Its good quality

may, however, compensate for these requirements. It ripens about the time of the Concord. The Iona is a seedling of Dr. Grant's, produced from the Diana, some years ago, and now first introduced to notice. It is said to be a strong grower, with foliage of good size and firmness, well calculated to resist the attacks of the mildew. It blossoms late. Flesh, melting to the centre, juicy, sweet, and vinous, with a pleasant aroma. The editor of the Horticulturist, who has grown and tried it, places it by the side of the Delaware. At a recent exhibition in New York, by the grape growers of that vicinity, a prize of \$10 was awarded to Peter B. Mead, for the Iona, as the best native seedling, "which had never before taken a prize."

ADIRONDAC GRAPE.—This new variety is gaining friends wherever it is exhibited. At the Horticultural Show of the American Institute some excellent specimens were placed upon the tables, and at the Exhibition of Grapes, held in the same city, the prize was awarded to J. W. Bailey, for the Adirondac, "as the best five bunches of native grapes of any kind, quality to rule." This certainly shows, that for excellence it was the best, where its competitors were the Delaware, Diana, Crevelling, Allen's Hybrid, and others.

MARCHIONESS OF HASTINGS GRAPE.—This new grape, introduced a few years ago, and described as a very large and fine variety for the graper, has been exhibited the present year, and highly commended. At a great Horticultural Show at Brighton, Sept. 11, "the grapes were very fine, more especially the Marchioness of Hastings." At the Crystal Palace Exhibition it was shown, and attracted much attention. It is a very large, greenish grape.

FINE GRAPES.—All who have witnessed our exhibitions of grapes the last few years must have been struck with their inferiority as compared with those produced fifteen or twenty years ago. That grape culture has become much more extended is certainly true, but corresponding excellence has not been maintained. Our grape growers must do better if they would hold their reputation as good cultivators.

At the Crystal Palace Horticultural Exhibition, September 1, there was a fine show of grapes, excellent in quality, and

abundant in quantity. Mr. Meridith's were unequalled for high cultivation and finish. Three bunches of Black Hamburgh, from him, weighed, together, 10 pounds, 13 ounces. Mr. Morris likewise contributed admirable Black Hamburghs, as did also Mr. Henderson, Mr. Richards, and Mr. Drummond. The last named grower, also exhibited bunches of Muscat, beautifully ripened and well colored. And from Mr. Meridith came a bunch of Trebbiana, weighing 5 pounds, which, though scarcely ripe, and slightly spotted with rust, was, nevertheless, a magnificent cluster. Mr. Goldsmith had a bunch of Barbarossa, weighing 5 pounds, 14 ounces; it was not, however, in first rate condition. Golden Hamburgh, not very good, came from Mr. Tillery. And we noticed a bunch of the large green grape, Marchioness of Hastings, from Mr. Henderson.

THE ONTARIO GRAPE.—This grape, which attracted considerable attention, from the fine specimens exhibited a year or two ago, is said to have originated at Port Dalhousie, Canada, by Mr. Wm. H. Read. A careful comparison of it with the Union Village, by our pomologists, has led to the belief that it was precisely the same as that variety. A recent discussion upon this grape, by the fruit growers of Canada West, confirms, we think, this opinion. Undoubtedly, Mr. Hill's grape, which he bought of a "travelling pedler," was the Union Village, the origin of which is not well authenticated. The discussion was as follows:—

Wm. H. Read. The Ontario is a seedling of my own raising. I sowed above a pint of seed, saved from several varieties, including Isabella, and the grape grown by Mr. S. Hill, and some of my own hybridizing, but I cannot say from which particular seed it grew, as I planted them altogether, and it is quite possible that it is a seedling from Mr. Hill's grape. My vine is about ten years old, is growing in soil prepared with the plough, without any manuring, in the lower part of my door yard, that has not been cropped for many years.

Mr. Solomon Hill. I have had my vine eighteen or twenty years; bought it of a travelling pedler, for the Virginia White grape. I grew it two years in the garden; I then moved it to my new garden, in a clay soil, and it is now standing there.

Has had very little attention paid to it within the last year. I only trimmed and manured it. Last season I ringed it just after the berries were nicely set, and found it made the berries but little larger. Those berries now exhibited had no special care this season, were not ringed nor thinned in any way.

Mr. Arnold. Put Union Village, Ontario, and Mr. Hill's grape, side by side, within four feet of each other, and in all respects equally situated. They fruited this year, for the first time, and neither my friends who examined them, nor I, have been able to perceive any difference between them all, either in foliage, fruit or flavor. It is at least ten days earlier than the Isabella.

The Society, not being fully satisfied, as regards the identity of those grapes, it was suggested that the subject rest until another year shall give further information.

ARBORICULTURAL NOTICES.

VARIEGATED HEMLOCK.—Quite an addition has been made to our variegated evergreens, by the accidental growth of a variegated variety of our hardy and well-known hemlock. This beautiful plant originated at the Evergreens, the residence of Dr. E. G. Kelley of Newburyport.

The proprietor recently presented a few small branches of this remarkable variety at one of the weekly exhibitions of the Massachusetts Horticultural Society, and it interested us so much that we gathered from Dr. Kelley some account of its origin, and the general characteristics of the tree, which we add, trusting that we may have the opportunity of accepting an invitation of the Doctor to visit his beautiful grounds, and giving a more particular description of the tree.

The discovery of this beautiful Silver Hemlock was as follows:—In the spring of 1856, Dr. Kelley set out a hedge of small seedling hemlocks, this one showing a marked difference in appearance, but not enough to discard it. Supposing it to be less healthy than the rest he gave it a close trimming. The new growth was still so very white, and apparently fading,

that he cut it in the second time, and again, every shoot was so destitute of the normal green that he concluded it would only survive for that year.

The next spring the obstinate little tree grew more rampantly than ever, but with the same persistent character, and it then, for the first time, occurred to the proprietor that it was a distinct variety. It was, however, too late to incur the risk of losing it by removal, and it was not till the following spring, after growing it in the hedge row two years, that it was transplanted to where it could receive proper attention and development.

The tree is now about seven feet high, in a very flourishing condition, and, indeed, one of the most beautiful specimens of silver, or variegated foliage.

This is probably the only known variety of *Abies canadensis*, the most graceful and hardy of all our indigenous ever-green trees.

Dr. Kelley proposes to call it *Argentea Kelleyi*.

CUPRESSUS LAWSONIANA VARIEGATA.—A very beautiful variegated variety of *C. Lawsoniana* has been produced by Mr. John Waters of Bagshot, near London, who raised it from a lot of seeds received direct from California. The variegation is very distinct, the little branchlets, all over the plant, being of a clear yellow, contrasting elegantly with the deep rich green of the mass of the tree. As a lawn tree it will produce a magnificent effect, and if as hardy as the parent, will prove a great addition to our few hardy variegated conifers. Unfortunately some of them which are beautiful in the English climate, suffer from our cold winters, and the trees have a sickly look. This, if hardy, and Dr. Kelley's hemlock, will be superb ornaments to our gardens.

PYRUS UMBILICATA, often called *rosea*, is especially desirable, not only for its brilliant blossoms, which are of a more rosy red than the common *Scarlet*, but for its showy fruit, which are large, round, and yellow, and abundantly produced in clusters, rendering the plants as ornamental throughout the autumn, as they are during the spring.

BUDDING AND INARCHING GRAPE-VINES.

GRAFTING the grape-vine does not appear to be successful, except under the management of skilful gardeners, who have frequently practised it. Yet it is so often desirable to replace some poor variety in the grapery, or even in the open air, that it is frequently resorted to, but with indifferent success, a great majority of the grafts failing to grow.

Various writers suggest different periods and modes of grafting; some before the sap begins to run, others after the vine is in the leaf. Some recommend cleft, and others whip grafting; but with either or all of these plans the failures are so great, that many are induced to abandon the attempt to graft. We have, ourselves, been successful at one time, and failed at another, the cause being no doubt attributable to the condition of the stock, or state of the scion, or to the after treatment.

With this ill success it may be well to acquaint our cultivators with the system recommended by Mr. Fleming, the able gardener to the Duke of Sutherland, at Trentham, as given in the *Gardeners' Magazine of Botany*, a few years ago. This mode, though not new, having been described in one of the early volumes of our magazine, is still so little known, that we think it important to give Mr. Fleming's advice. That it is easily done, and sure to succeed, we are well assured, for we have tried it ourselves, and recommended it to amateurs, who have been successful. It has this merit, if it fails, the vine is not injured, either for grafting or inarching, which may be subsequently done.

Mr. Fleming's plan of budding is as follows (FIG. 21):—

Grafting, budding, or inarching vines, of the late-keeping kinds, is much to be commended; for, although the size of the berries is smaller, the flavor is improved; and, judging from our experience of the last few years, the fruit keeps three weeks or a month later.

The best time for budding vines is when the sap is flowing freely into the buds in spring, and when the leaves are commencing to unfold. If done earlier they will bleed, and thus

weaken the stock ; whereas vines do not bleed if wounded after the leaf begins to unfold, unless a shoot or branch be cut off. A strong stem of a vine may be budded all over with one or several kinds ; and if the operation is performed skilfully, and at the critical moment, when the vine is just coming into leaf, an inferior variety may, by this means, be made to bear the best kinds of grape, one year after budding, thus offering the readiest means of making the best of what has often to be considered a bad bargain, and the cause of much disappointment, as in the case of vines purchased under a wrong name. The annexed engraving (FIG. 21) will show clearly the way in which I have budded many vines, all of which have done well. As soon as the bud is nicely fitted into the place, it is tied tightly and neatly with bass, clayed over, as in grafting, and a little moss tied upon the clay to keep it moist. Care must be taken to keep the bud exposed



21. BUDDING THE GRAPE.

so that it may be able to grow without further interruption from the surrounding material, and the moss should be moistened several times a day. As the buds begin to grow, the shoots of the vine, or stock, must be removed, or they may be gradually diminished in number until they are all removed, or they may be stopped in constantly through the season, to give all the vigor of the stock to the buds. About midsummer the matting round the buds should be gradually slackened, and in a week or two afterwards the union between the bud and stock is perfect ; afterwards it may be wholly removed. We have had a crop from the main vine the same year that the buds were inserted, and thus no time was lost.

Inarching is a most successful method for changing the kind of grape, without doing away with a healthy vine, which may, perhaps, be more suitable for the soil in which it is growing, than the kind it is desirable to have in its place. When this plan is to be adopted, a healthy young vine of the

kind desired should be procured in a pot, and placed in the same house with the old or existing vine, before either begins to grow, in order that they may advance together, and be as nearly as possible in the same state when the operation is performed; the best time for which is, when the young shoots have grown about four feet in length. The vine in the pot should then be brought so near to the shoot to which it is to be attached, and placed in such a position that they can be readily united. The young bark and a thin slice of the wood, four inches in length, should then be carefully removed from each, about three feet from their points; the two parts thus cut should then be fitted exactly together, and tied neatly, taking care not to injure the soft young wood. Moss the part over, and the business is done for the present. In about three weeks the ligatures will require loosening; but care must be taken not to disturb the shoots, as very little will separate them. Every encouragement should be given to the inarched vine, by removing gross shoots from the stock during the summer; and, at the end of the season, the vine in the pot may be carefully cut below the juncture. If all goes on well fruit may be expected the following year.

THE FANCY PELARGONIUM.

FROM THE GARDENERS' CHRONICLE.

WE give below the remarks of Mr. Bailey, the author of the article in our last number on the culture of the Fancy Pelargonium. This very beautiful class is perhaps more satisfactory from its combined merits than the show or large-flowered kinds. It is certainly much more profuse in its bloom, continues in flower a longer period, and makes such nice dwarf-habited and symmetrical specimens, with but little care, that it is universally admired. While the large kinds are apt to grow up lean and leggy, the Fancies are short and stocky; mismanagement of either will fail to secure good specimens, but with ordinary treatment the latter make handsomer plants than the former.

We have, in former volumes, given several articles on the growth of the Fancy Pelargonium, but this of Mr. Bailey's will be none the less acceptable now that the season is at hand when the plants should receive their last potting, and the shoots trained into handsome shape, as directed in his previous paper; this part of the treatment being similar to that of the large kinds. The main difference in the two classes is, that the Fancies are more delicate, and require closer attention in their early stages:—

The Fancy Pelargonium, although of comparatively easy culture, is perhaps more generally mismanaged than any other. Instead of short sturdy specimens, the plants are frequently weak, drawn, and sickly, and covered with aphides, whereas with ordinary care they ought to be all that could be desired. As a decorative plant the Fancy pelargonium stands in the first rank, producing as it does large masses of flower of the gayest and most varied colors; in fact, by slightly varying the treatment it should ordinarily receive, it may be had in bloom nearly the whole year round.

The mode of treatment which I have found most successful is as follows:—Commencing with the propagation of the plant: to insure success, the cuttings should be made of moderately firm and well-ripened shoots, which can be obtained about the end of June. The soil in which they thrive best is thoroughly decomposed loam and dung; this, with a liberal admixture of sharp silver sand, and a little good leaf-mould, is all that is necessary in order to grow them in perfection. Having secured a supply of the foregoing, next procure some clean 48-sized pots; drain them well with broken potsherds, make the soil fine, fill them, and press moderately firm; then insert the cuttings, putting in as many as the pot will hold without crowding; make them quite tight, and the operation is complete. Place them on a light warm shelf. Do not shade, as they will bear any amount of light to which they are likely to be subjected; give occasional supplies of water, and in three weeks or a month they will have struck root. When rooted sufficiently pot them off separately into small 60-sized pots, taking care to preserve as much of the

root as possible. After potting, place them where they can be kept close and warm. As soon as established, give abundance of air; and should green fly make its appearance fumigate immediately. This is of the greatest importance.

Their next shift may be into 18-sized pots, in which, after pushing a few joints, they may be stopped, which will cause them to break and make dwarf bushy plants by the end of November. If they have been well attended to they will be ready for another shift into 32-sized pots, which will be large enough for the first season. Use the compost rather coarser than before: some of the fibre should be placed over the drainage, to prevent any stoppage. After this keep them somewhat close for a few days, until they become established, when, on all favorable opportunities, they should have abundance of air, but cold draughts must be avoided. The night temperature need not exceed 42° . It is a common mistake to keep Fancies too warm; by giving them heat they may be grown to a great size, but it will be at the expense of both quantity and quality of flower, and size without quality will not often be admired. In watering great care is necessary; it is better to find six dry than one too wet; there is a remedy for the one, but none for the other. In damp weather fire-heat will occasionally be required to dry the house, giving air at the same time.

Training must be commenced as soon as the shoots are sufficiently long for that purpose. I have described the method in my remarks on the large flowering pelargoniums; the same system is applicable to this class.

When the days lengthen, pay every attention to them, encourage growth with a little weak liquid manure, and occasionally the syringe may be drawn over them. When the trusses of bloom make their appearance, a slight shade will be necessary in bright weather; increasing it as the season advances. Before the flowers expand, fumigate two or three nights in succession, this will keep them clean for the rest of the season. The cultivator will now have little to do but to admire their beauties, and prolong their bloom.

After they have done flowering set them out of doors, cut them down when ripe enough, and treat them in every respect

as recommended for large flowering ones, following the same routine throughout the second season, by which time they should be good-sized plants. Those for the early shows should be potted by the beginning of October into 8-inch pots; the later plants in November. They will require great care to prevent them from becoming drawn; tie the shoots as thinly as possible, and keep the plants near the glass. Attend carefully to the removal of all decayed foliage, which if allowed to remain, will cause the shoots to turn black and die.

In January, those intended for early flowering should receive a little fire heat, with a temperature of 45° at night and 50° by day. Increase the temperature as the season advances. Give occasional supplies of weak liquid manure, and attend strictly to fumigation. The latest plants should be stopped in February. When the plants are in bloom, carefully exclude all bees, and invariably water in the morning, so that the plants may become dry before night. If the house is closed when damp, the flowers decay and soon fall off. They will not require many sticks, just enough to keep them in form. If well managed they will now measure from two to three feet through, and will be loaded with flowers of fine quality, and fit for any of the metropolitan exhibitions.

The following are a few of the best varieties in cultivation:—viz., Acme, Arabella Goddard, Edith, Ellen Beck, Lady Towers, Miss-in-her-Teens, Bridesmaid, Cloth of Silver, Delicatum, Captivator, Fleur de Marie, Musjid, Formosum, Lady Craven, Madame Sainton Dolby, Madame Rougiere, Modestum, Rosabella, Reliance, Sarah Turner, Negro, and Zoë.

FLORICULTURAL NOTICES.

PAMPAS GRASS.—This superb flowering grass has been finely grown by C. M. Atkinson, gardener to J. G. Cushing, Esq., Belmont. Two plants, in large tubs, are just now magnificent with their silvery plumes. One of the plants produced thirty-four spikes, and the other nearly the same number.

They are now standing in the large conservatory, and contribute greatly to its decoration, at this season, when there are so few flowering plants.

LILIUM AURATUM.—A specimen of this fine lily was lately sent to the editor of the *Gardeners' Chronicle*, by Mr. Bullen, gardener to A. Turner, Esq., Bowbridge House, Leicester, showing to what perfection the flowers may be brought under good cultivation. The one in question measured rather more than a foot in diameter, each petal having a beautiful band of rich golden yellow down the middle, the intervening spaces being covered, in the most charming manner possible, with rich brownish crimson dots, which, being backed up by a pure white ground, were set off to excellent advantage. Mr. Bullen states that the plant, from which the bloom was cut, was purchased of Messrs. Veitch, last autumn, and that since that time its growth has been most satisfactory. The stem, measuring from the surface of the soil, is four feet, ten inches in height; the leaves are nine and a half inches in length, and fifty-one in number, and the plant has, altogether, four blooms on it, equal to that with which we have been furnished. Other plants are blooming at Mr. Rucker's of Wandsworth and elsewhere; and it is hoped some one may be induced to try it out of doors this winter, to test its hardiness. As a decorative pot plant, under glass, it is invaluable.

COLEUS VERSCHAFFELTII, the new dark foliaged plant, introduced last year, has proved a very fine bedding plant; growing as freely as the *Perilla*, and much richer in color, as well as in texture, having the soft velvety appearance, wanting in both the *Perilla* and the new red *Amaranthus*. All three are very conspicuous plants, and for making ribbon borders, almost indispensable, particularly the *Coleus*, which we consider the most distinct and beautiful of the three.

706. *ALOCASIA LOWII* Hook. MR. LOW'S *ALOCASIA*. (Aroidæ.) Borneo.

A hothouse plant; growing two feet high; with variegated foliage and white flowers; appearing in winter; increased by division of the tubes; grown in sandy peat and loam. *Bot. Mag.*, 1863, pl. 5376.

A new and superb species of the *Alocasia*, introduced by Messrs. H. Low & Son. In general appearance it resembles

the *A. metallica*. The upper surface of the leaves are of a very dark green, with the main and transverse nerves and margin of a pure white; the under surface is of a beautiful deep purple; their leaves are from fourteen to sixteen inches long, and five inches broad. The flowers, which appear in winter, and not unlike an opening bud of the *Calla*, are white, and appear in scapes, about the length of the leaf, adding much to the beauty of the foliage. This fine species will be a beautiful acquisition to our foliaged plants, forming a grand contrast with the spotted leaves of the *Caladiums*. (*Bot. Mag.*, May.)

707. *SAXIFRAGA FORTUNII* Hook. MR. FORTUNE'S SAXIFRAGE.
(Saxifragaceæ.) China.

A greenhouse plant; growing six inches high; with white flowers; appearing in spring; grown in rich light soil; increased by division of the root. *Bot. Mag.*, 1863, pl. 5377.

A new species, allied to the common Strawberry Saxifrage (*S. sarmentosa*) of our gardens; as yet the plants have not shown the sarmentose character of the latter, but it will probably appear, as the plants become older. The leaves of this species are wholly green, and the flowers are pure white, in branched, spikes six or eight inches long. (*Bot. Mag.*, May.)

708. *HÆMANTHUS NATALENSIS* Pappe. NATAL HÆMANTHUS.
(Amaryllidaceæ.) Natal.

A greenhouse bulb; growing a foot high; with yellowish flowers; appearing in February; increased by offsets; grown in rich light soil. *Bot. Mag.*, 1863, pl. 5378.

“A charming greenhouse plant,” conspicuous for the brilliant spotting of the sheathing scales at the base of the plant, the orange colored stamens and styles, and the rich ferruginous purple color of the bracteas of the involucre. It was sent to Kew from Natal, in 1862, and the bulbs flowered in February last. (*Bot. Mag.*, May.)

709. *SCILLA NATALENSIS* Planch. NATAL SQUILL. (Liliaceæ.)
Natal.

A greenhouse bulb; growing 18 inches high; with pale blue flowers; appearing in summer; increased by offsets; grown in light rich soil. *Bot. Mag.*, 1863, pl. 5379.

Introduced to European gardens by M. Van Houtte. It is a graceful and elegant species. The spikes of flowers are long and dense, and of a delicate pale blue. (*Bot. Mag.*, May.)

710. *HETEROTROPA PAVIRFLORA* Hook. SMALL-FLOWERED HETEROTROPA. (Aristolochiaceæ.) Japan.

A greenhouse plant; growing six inches high; with purple flowers and variegated leaves; increased by cuttings; grown in light rich soil. Bot. Mag., 1863, pl. 5360.

From Yokohama, Japan. The leaves are green, with a white midrib, and lighter green spots on each side; the flowers are small, and of a deep purple; the main beauty of the plant is in its spotted foliage. (*Bot. Mag.*, May.)

711. *COCCOLOBA PLATYCLADA* F. Mueller. FLAT-BRANCHED LOBEBERRY. (Polygoneæ.) Solomon's Island.

A greenhouse plant; growing one foot high; with scarlet berries; appearing in summer; increased by cuttings; grown in good rich soil. Bot. Mag., 1863, pl. 5382.

A "remarkable plant, sent to Kew from the Melbourne gardens, to which it was introduced from Solomon's Island. Although naturally growing in swampy localities, and in a tropical region, it thrives well in ordinary flower borders in Australia, being, throughout the year, covered with innumerable blossoms, generally interspersed with bright red, and finally dark purple, berries. Irrespective of its curious flat leaflike ramifications, also, in a horticultural point of view, it is one of the most interesting acquisitions of our gardens, and we anticipate ere long, it will become a general garden favorite.

As yet it has been only cultivated in the greenhouse at Kew. In our warm summers it will probably bloom and fruit abundantly, and form a handsome ornament to the flower garden. The stems are flat and leafless, the flowers and fruit being produced at the joints on each side. The fruits are of a brilliant crimson. (*Bot. Mag.*, May.)

712. *HIGGINSLIA GHEISBECHTHI* Linden. GHEISBECHT'S HIGGINSLIA. (Rubiaceæ.) South America.

A hothouse plant; growing three feet high; with variegated foliage; increased by cuttings; grown in light rich soil. Bot. Mag., 1863, pl. 5383.

A handsome plant, introduced under the name of *Campylobotrys*. It is remarkable, not only for the beauty of the foliage, rich, velvety green above, and purple beneath, but for the sharply quadrangular stem and branches, with a very conspicuous wing at each angle. The leaves are a foot or

more long, and the whole plant has somewhat the appearance of the *Cyanophyllum magnificum*. (*Bot. Mag.*, June.)

713. . *PINANGA MACULATA* *Porte*. SPOTTED-LEAVED PINANGA.
(*Phœnicaceæ*.) Philippines.

A hothouse plant; growing ten to fifteen feet high; with spotted leaves; grown in rich soil. *Illustration Horticole*, 1863, pl. 361.

This is the first of the variegated Palms, having dark green leaves, covered with large and small rounded spots of blackish green. It was discovered by M. Porte, in the Philippines, growing in humid forests, and in cultivation it requires a warm house, and a half-shady situation. (*Illus. Hort.*, May.)

714. *DORSTENIA MACULATA* *Ch. Lem*. SPOTTED-LEAVED DORSTENIA. (*Moraceæ*.)

A hothouse plant; growing two feet high; with variegated leaves; increased by division of the roots; grown in rich soil. *Illustration Horticole*, 1863, pl. 362.

A curious, but showy plant, with very large triangular shaped leaves, deep green, blotched with white; the plant is stemless, and forms a dense broad mass of foliage. It requires the heat of the stove in winter, but may be grown, like other similar plants, in the greenhouse during the summer. (*Ill. Hort.*, May.)

715. *CAMELLIA*, VAR. *VICOMTE DE NIEULAND*.

Illustration Horticole, 1863, pl. 363.

A beautiful rose colored flower, a sport of the variety *C. Marie Theresa*, and fixed by grafting. The color is a very deep clear rose, with darker veins running through the petals; form perfect, growth free, and an abundant bloomer. (*Ill. Hort.*, May.)

716. *RHODODENDRON*, VAR. *FORMOSUM*. Garden Hybrid.

Illustration Horticole, 1863, pl. 364.

A remarkable seedling, from *R. arboreum*, with crimson blossoms, and *R. aureum*, with yellow flowers, raised in the establishment of M. Verschaffelt of Gand. It has the large rose colored flowers of the first, and the small and delicate foliage of the last. Its habit is vigorous, and it flowers abundantly. The heads of flowers are large, and conspicuously

spotted with dark purple. It requires the protection of the greenhouse. (*Ill. Hort.*, May.)

717. AZALEA INDICA, VAR. REINE DES BEAUTES. Garden Hybrid.

Illustration Horticole, 1863, pl. 366.

One of the many Belgian seedlings, of which so many have been introduced the last few years. In general appearance it resembles variegata, the ground color being a deep salmon pink, showing a distinct and feathered white edging, with the upper petals beautifully spotted with bright crimson. It is also partially double, having several smaller petals in the centre, conspicuously edged with white. The flowers are very large, the habit vigorous, and the blossoms abundant. It is fine acquisition. Raised by M. Maenhout of Gand, and introduced by M. Verschaffelt. (*Ill. Hort.*, June.)

Gossip of the Month.

FRUIT CULTURE IN WORCESTER COUNTY, MASS.—The following hints on fruit growing in the interior of Massachusetts, by the President of the Worcester Horticultural Society, will interest many who are planting trees:

“From the fall of the leaves in autumn till the opening of the buds in spring, our northern vegetation is in a nearly dormant condition. Successful transplanting is practicable during the whole of this period, whenever the temperature of the air is above the freezing point and the ground is not frozen or excessively wet. Fruit and ornamental trees of good size and of hardy species,—such as the apple, pear, elm, maple, &c.,—may be advantageously set out in the autumn. The best time for fall transplanting hereabouts, is during the last ten days of October, although evergreen trees may be moved a little earlier than this, as may also deciduous species, provided they are first stripped of all their remaining foliage. In some favorable seasons the work of transplanting may be continued even into December.

To raise the pear in perfection, requires a suitable soil and a favorable aspect. The entire orchard or garden occupied by the trees ought also to be thoroughly trenched, or dug over, to the depth of *not less than two feet*, and underground drains should be laid wherever the subsoil is clayey or otherwise retentive. Protection from the wind—such as belts of evergreen trees, buildings, or board fences—is very essential. The trees, by a judicious system of pruning, must be prevented from choking themselves up with wood, and they must also be equally guarded, by thinning out their

fruit, from bearing heavy crops. With less expense than this, it is true, pears of ordinary quality and even quite good apples may be grown, but fruit of very superior excellence, whatever the species, ought not to be expected without cares and labors such as our present market prices hardly repay.

Whoever would raise fruit *for profit* should cultivate but a few varieties, and those of first-rate reputation in his own immediate neighborhood. The different treatment required by different varieties, and the labor of gathering and marketing so many dissimilar articles, are very troublesome; besides, notwithstanding the long lists of apples, pears, &c., &c., now enjoying a certain reputation, the number of really profitable varieties still remains quite limited. It is of great importance, also, to bear in mind that fruits which elsewhere may succeed admirably and in the same latitude as ours, even less than fifty miles off, may be by no means worthy of cultivation here. This fact, though well known, still remains, to a great extent, inexplicable. The folly of experimenting with "*new varieties*" may be readily appreciated, for the experience of years attests that more than nine-tenths of these highly recommended novelties prove utterly valueless, at least in this section of the country.

What has just been said will suffice to explain the great local value of the list of fruits which, having stood the test of discussion, have been recommended by the most intelligent fruit-cultivators in this vicinity. The following is the Worcester County Horticultural Society's Select List of Fruits:—

APPLES. *Early*—Red Astrachan, Sweet Bough, Duchess of Oldenburg, Williams, *Worcester Spy, *Summer Pippin.

Autumn—Gravenstein, Porter, *Shepard's Sweeting, *Leland's Spice, *Fameuse, Hubbardston Nonsuch.

Winter and Spring—Mother, R. I. Greening, †Yellow Bellflower, †Jewett's Red, Baldwin, *Washington Royal, *Ladies' Sweeting, *Northern Spy, Tolman Sweeting, Roxbury Russet.

PEARS. *Early*—Beurre Giffard, Rostiezer, Dearborn's Seedling, Bartlett, St. Ghislain.

Autumn—Belle Lucrative, Paradise d'Automne, Flemish Beauty, Marie Louise, L. B. de Jersey, Seckel, Fulton, Henry IV., Sheldon.

Late Autumn and Winter—Beurre Bosc, Urbaniste, B. d'Anjou, Dix, Duchess d'Angouleme, Winter Nelis, Lawrence, Glout Morceau.

CHERRIES. May Duke, Knight's Early Black, Black Tartarian, Black Eagle, Downer's Late, American Amber.

GRAPES. Hartford Prolific, Diana, Concord, Delaware.

STRAWBERRIES. Hovey's Seedling, Jenney's Seedling, Jenny Lind, Wilson's Albany.

The Grape may be set out either in the Fall or the Spring. The great desideratum in Central Massachusetts is a fine variety *sure to ripen* its fruit.

* Varieties recommended as promising well.

† Varieties recommended for amateur cultivation.

Numbered in the order of their coming into maturity the grapes in the list would stand, 1. Hartford Prolific, 2. Concord, 3. Diana, 4. Isabella.

No. 4 is so uncertain to get ripe that, notwithstanding its fine quality and productiveness, we should hardly recommend it, except possibly for warm localities in the extreme south of the county. No. 3 is the best of the four, being only a little inferior to the Catawba; and number 1, on account of its greater certainty to mature its fruit, as for other desirable qualities, is upon the whole the most popular of them all.

Other species of fruit have not yet been brought to discussion; but the meetings will be resumed probably during the coming winter. Of the twenty-two apples named in the above list, the Red Astrachan, Gravenstein, Hubbardston Nonsuch, Rhode Island Greening, Baldwin, and Roxbury Russet, are certainly among the most profitable of their respective seasons. Unless the trees grow within very easy access to a large market, winter apples are generally more profitable than autumn varieties, as those of autumn are more so than the early sorts. The Hubbardston Nonsuch, Rhode Island Greening, and Baldwin, are believed to be as remunerative apples, for the labor bestowed upon them, as any three varieties that can be named for cultivation in this section of the country.

As with apples so with pears, the very early varieties are the least profitable. Were we to attempt to choose a dozen out of the twenty-two pears in the above list, we should—if a succession of profitable fruit be required—make the following selections:—

1. Rostiezer, 2. Bartlett, 3. Belle Lucrative, 4. Paradise d'Automne, 5. Flemish Beauty, 6. Louise Bonne de Jersey, 7. Seckel, 8. Fulton, 9. Beurré Bosc, 10. Urbaniste, 11. Duchesse d'Angouleme, 12. Lawrence.

For a smaller list, it may be safely asserted, that no pears yet known have paid better for cultivation, hereabouts, than numbers 2, 3, 6, 8, 9, and 11; while numbers 5, 6, and 10 have proved scarcely less profitable. Nos. 3, 6, 10, and 11 succeed admirably on quince.

Societies.

CAMBRIDGE HORTICULTURAL.

This young Society held its Second Annual Exhibition at the City Hall in Cambridge, September 30, and October 1.

Notwithstanding the limited crop the present season, the show was nearly as large as last year, and many of the specimens finer. 364 dishes of pears, 21 of apples, and 60 of native grapes, were placed upon the tables; each dish of pears containing a dozen or more specimens. Among the varieties particularly noteworthy, were the Seckel, Swan's Orange, Doyenné du Comice, Marie Louise, De Tongres, Louise Bonne, Beurré Superfin, Beurré Bosc, Beurré Diel, Dix, Sieulle, Sheldon, and Moore's; Hovey &

Co. carried off the first prize for ten varieties of pears, with the Beurré Superfin, B. Bosc, B. Hardy, Belle Lucrative, Sheldon, Swan's Orange, Urbaniste, Doyenné du Comice, Merriam and Dix; and H. Davis the second, with Bartlett, Beurré Clairgeau, B. Bachelier, B. Diel, B. Bosc, Seckel, Louise Bonne, Urbaniste, Winter Nelis, and De Tongres.

The show of native grapes was large, and embraced fine ripe specimens of Union Village, Delaware, Concord, Rebecca, Diana, Isabella and others. Our space does not allow us to give so extended an account of the Exhibition as its merits deserve.

FRUIT GROWERS OF WESTERN NEW YORK.

The autumn meeting of this Society was held at Rochester, N. Y., on the 29th of September. The attendance was not so large as usual, but the show of fruit was very fine, and attracted much attention. A committee was chosen to prepare questions for discussion, who submitted a variety of subjects, of which only two or three caused much debate. They were the following:—

Is the same treatment of the vine, as practised in the vineyards of the old countries, equally adapted to our climate and soil? If not, what is the best method of training?

Benj. Fish, of Rochester, trained to stakes and on trellis, but succeeded best with the trellis.

H. H. Olmsted, of Pavilion, trained on wire trellis, made with fine wire and succeeded well, but he had planted a large vineyard, and would like to learn some more economical process. Thought perhaps strong stakes, with a slat across the top and cord below, would answer.

B. Fish thought that slats might be used for the entire trellis, and prove cheaper than wire.

D. T. Halsey, of Victory, N. Y., said cast-aside telegraph wire could be bought for about three cents a pound, and made excellent trellis.

What is the best soil for successful vineyard cultivation?

J. Craine, of Lockport, said that a warm, gravelly soil, was best adapted to the grape in this section of the country. We need grapes to ripen early, and they will not do so in a heavy clay soil.

Dr. Miner did not think there was much difference between clay and gravel, if the former was well drained.

H. H. Olmsted planted a gravelly sandy loam with clay subsoil, but sufficient gravel with it to let the water pass off readily. His grapes ripened well.

A. Pinney—A neighbor has a clay soil, well drained. Mine is a warm, sandy loam, and yet he ripens grapes much earlier than I do. He has Catawba grapes ripe now.

J. Craine said that a sandy or gravelly soil may contain too much moisture, and he did not wish to be understood as intimating that a gravelly or sandy wet soil was warmer than a drained clay soil.

H. N. Langworthy likes a warm, gravelly soil, on high ground. Low grounds were subject to cold currents of air and untimely frosts.

What are the most desirable grapes adapted to this climate for long keeping? and what are the best for commercial purposes (wine excepted)?

To what extent can the growing of grapes be extended profitably in this locality for commercial purposes?

B. Fish considered Diana the best keeping grape.

H. N. Langworthy said it was well settled that all early grapes are poor keepers. We must depend upon the last ripening grapes for long keepers, like the Diana, Isabella, &c., and should not, therefore, discard those that ripen late. Thought highly of the Rebecca, but had not much experience in keeping it. Considered the vine hardy.

A Pinney—A neighbor always had Catawbas in March as perfect as when taken from the vines. He cut off the branches containing the grapes, and hung them up in the cellar.

H. H. Olmsted said Dianas kept well, and so did the Rebecca. Had kept Isabellas until June. Put them in boxes right from the vine, with double paper between each layer. Kept them as cool as possible without freezing. Delaware kept pretty well, but it would never be a long-keeping grape. Isabella kept well when thoroughly ripened.

Josiah Salter spoke well of Diana and Rebecca for keeping.

H. N. Langworthy said this was an important question. Long-keeping grapes were best for commercial purposes.

A. Pinney preferred Union Village, Delaware, and Rebecca. In New York market, Delaware sold for 20 cents per pound, while the best Isabellas and Concords brought but 10 or 12 cents.

H. H. Olmsted considered the Delaware the best grape for market purposes. When this grape becomes better known it will find an unlimited market. Had but one bearing vine, but that did so well he had put out 2,500. For a late grape, liked Diana, and had planted 2,500. Had a Delaware bearing 500 clusters. When the public taste becomes cultivated, the Concord, Isabella, and that class of grapes, will not be good enough to satisfy the public demand.

Joseph Frost had fruited fifteen varieties, but had nothing to compare with the Delaware. Diana had rotted a good deal the last two or three years, and the grapes are quite imperfect. No grape, not even the Concord and Isabella, will bear more pounds of fruit, if as many, as the Delaware.

A. Pinney had fruited the Diana for six years, and never got a ripe bunch.

On the question of the extent to which grapes can be grown for commercial purposes with profit, there was some discussion, but nothing particularly valuable was elicited. There is no danger of overstocking the market with good, well-ripened grapes. Not one in a hundred gets a pound of good grapes in a year, while every grown person is entitled to a hundred pounds, and every child to two hundred—if they can get them.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The Annual Exhibition of this flourishing Society was held at the Academy of Music in Philadelphia, on Tuesday, Wednesday, and Thursday, Sept. 15, 16, and 17.

We had the pleasure of attending the Exhibition, and give a brief account of the grand display—the finest, so far as regards plants, ever made in the country. In fact, no other city comprises within its immediate vicinity so many large specimens of palms, cycads, and other tropical plants, which contribute so much to the filling up and decoration of a large hall, as Philadelphia. The specimens of fine-foliaged plants, such as caladiums, crotons, dracænas, &c., as well as ferns, were presented in great numbers and superbly grown. The gardeners of our sister city may feel proud of their skill, as displayed in the management of their plants.

The only place in the city, capable of accommodating the society, was the Academy of Music, an immense and grand building, situated on Broad, near Chestnut street. The pit was floored over level with the stage, affording a grand space of about 300 feet in length by nearly 100 in width. Entering from the front, the view was extensive and grand. A centre table and two side tables extended the whole length of the building; these were entirely filled with plants. At the extreme end of the stage, forming a grand vista from the entrance, was a superb grotto, some 30 feet high, made of gigantic ferns, lycopods, and foliaged plants, so natural in its construction and arrangement as to deceive the visitor. From the top trickled little streams of water, which fell upon the gigantic leaves and queenly flowers of the *Victoria Regia*, floating in the little pond below. The effect was grand, and added much to the interest of the exhibition. It was the work of Mr. Southwood.

It would be impossible for us to enumerate the many fine specimens which filled the broad tables. We can only say, that the caladiums were the most magnificent of the many fine things; they were in 12 or 15 inch pots, and one mass of large and healthy foliage. It was difficult to say which was the best collection. The first premium for 12 was awarded to Jas. Eadie, gardener to Dr. Rush; and the second, to A. Graham, gr. to Gen. Patterson; D. R. King, Esq., had 12 very superb specimens. In these collections we noticed as the most conspicuous, *Chantini*, *picturatum*, *bicolor*, *Baraquini*, *pictum*, *Belleymei*, and *Argyrites*. Some *Lantanas*, from Dr. Rush's collection, were gigantic pyramids, 8 feet high, covered with foliage and flowers from the top down to the pot; they were the most conspicuous flowering plants in the exhibition; showing it, and the *fuchsia*, to be two of the best exhibition plants of the autumn. Ex-President Baldwin sent 12 ferns, which obtained the first premium; the specimens of Gold and Silver ferns were very superb. A collection of 12 lycopods, grown in large pans, from Dr. R. King, obtained the first prize; they showed the good management of his gardener, Mr. Fairbrother. Six very fine *Anæctochilus* came from E. B. Hibbert, gr. to Prof. Rogers.

These are but a few of the hundreds of plants exhibited, but they are such as struck us as particularly effective in the large display.

If the plants were so fine, we cannot say so much of the fruits; these, we must add, rather disappointed us. Of pears we did not look for a great display, but in grapes we expected to see something superior, especially of hardy kinds; but with the exception of Concords, Delawares, and Isabellas, the show was limited. Messrs. Hoopes and Bro. had a collection of 34 kinds, and there were some smaller collections, but only a bunch or two of a sort, and many of them small specimens, hardly showing the character of the variety. The Concords were superb, and all fully ripe, black, and sweet. Ellwanger & Barry, of Rochester, sent 175 varieties of Pears, and Hovey & Co., of Boston, 100 varieties. The President, Mr. Mitchell, had some excellent Black Hamburgs, which carried off the prize. Buckland Sweetwater was shown by Dr. Geo. Thomas, West Wheatland, Pa.; it is a fine grape. The fruits were exhibited in the saloon.

The display of vegetables, though not large, was very good. These were shown in the basement.

Upwards of 14,000 persons attended the exhibition, and notwithstanding the great expense incurred, this was fully covered and the society saved from loss.

AMERICAN INSTITUTE.

HORTICULTURAL EXHIBITION.—This display commenced Sept. 16, and continued to October 1; it was held at the Academy of Music, the arrangements being the same as that of the Pennsylvania Horticultural Society. The plants and flowers were displayed in the saloon, and the fruits in the basement. Of the former there was a good collection, from I. Buchanan, A. B. Clark, Wm. Baker, and others. The latter were from W. A. Burgiss, C. S. Bell, I. Buchanan, D. Clarke, A. G. Burgiss, P. Henderson, and others.

The fruits were contributed in very large numbers, and of excellent quality. T. T. Lyon, of Michigan, sent a collection of apples, which took the Gold Medal; they were very handsome. Other large and fine collections of apples were exhibited. Ellwanger & Barry sent a general collection of fruit, some 300 varieties, and Hovey & Co. 100 varieties of pears, too late for competition. Wm. L. Ferris, of Throgs Neck, obtained the Gold Medal for 50 varieties of pears, and C. Downing the Silver Cup for the second. Fine Delaware and other grapes were exhibited, and the fruit was undoubtedly as good as was ever shown in New York.

Massachusetts Horticultural Society.

Saturday, October 3d. The Annual Meeting of the Society was held today—the President in the chair.

The following officers were elected for the ensuing year:—

President—Charles M. Hovey.

Vice Presidents—J. F. C. Hyde, C. O. Whitmore, W. C. Strong, H. Hollis Hunnewell.

Treasurer—William R. Austin.

Corresponding Secretary—Eben Wight.

Recording Secretary—F. Lyman Winship.

Professor of Botany and Vegetable Physiology—John L. Russell.

Professor of Zoölogy—J. W. P. Jenks.

Professor of Horticultural Chemistry—A. A. Hayes.

Executive Committee—The President, Chairman; The Treasurer, Marshall P. Wilder, J. S. Cabot, Joseph Breck.

Committee for Establishing Premiums—Chairman of Committee on Fruits, Chairman; Chairmen of Committees on Flowers, Vegetables, and Gardens, and Parker Barnes.

Committee on Finance—Josiah Stickney, Chairman; Marshall P. Wilder, C. O. Whitmore.

Committee on the Library—Francis Parkman, Chairman; W. H. Spooner, Jr., G. W. Pratt, R. McCleary Copeland, L. Wetherell.

Committee on Ornamental Gardening—W. R. Austin, Chairman; W. C. Strong, H. Weld Fuller, E. A. Story, Chairmen of Committees on Fruits, Flowers, and Vegetables.

Committee on Fruits—J. F. C. Hyde, Chairman; J. S. Cabot, W. C. Strong, P. B. Hovey, E. A. Brackett, A. C. Bowditch, Eliphalet Stone.

Committee on Flowers—E. A. Story, Chairman; J. C. Hovey, James Mc Tear, C. H. B. Breck, Wm. Gray, E. W. Buswell, S. H. Gibbens.

Committee on Vegetables—Abner Pierce, Chairman; Franklin Winship, James Nugent, Azell Bowditch, Daniel Murray, B. Harrington, L. Whitcomb.

Synonyms of Fruit—Marshall P. Wilder, Chairman; C. M. Hovey, J. S. Cabot, Josiah Stickney, Chairman of the Committee on Fruits.

Committee on Publication—Corresponding Secretary, Chairman; Recording Secretary, E. A. Brackett, Chairmen of the Committees on Flowers, Fruits, Vegetables, and Gardens.

Other business was transacted, of which a report will be given in our next number.

Adjourned one month, to November 6th.

Horticultural Operations

FOR NOVEMBER.

FRUIT DEPARTMENT.

October has been a beautiful month, without frost up to the time we write, and trees and vines have ripened up their wood in fine condition to withstand the winter. This is the month for making improvements in the fruit garden. November is the best time for transplanting, or if the ground

is not ready, of preparing for the next best season, which is April. Draining and trenching should now be pushed forward, and continued as long as the frost will allow. Prune and prepare grape vines for covering as soon as the weather is cold.

GRAPE VINES in the early-forced houses will now be breaking, and as the weather has been favorable, they should be in fine order. Increase the covering of the border as the season advances, using stable manure, prepared by throwing into a heap to cause some fermentation; on the top of this throw leaves or old hay, and if convenient, boards or shutters. Increase the temperature gradually, avoiding too much heat during the night. Vines in graperies and greenhouses will require no other care than taking off the decaying leaves and securing well-ripened wood. Cold houses should be pruned the last of the month, and the vines well protected before cold weather. Hardy grape vines should be pruned and laid down, and covered with earth or coarse litter.

TREES of all kinds may be transplanted now, it is the best season.

STRAWBERRY BEDS should be lightly covered with salt or meadow hay, sedge, pine boughs, or anything which will prevent freezing and thawing during the winter.

ORCHARD-HOUSE TREES should be protected from heavy rains and hard frosts, removing them to the house or shed, till such time as they are stored away till spring.

RASPBERRY VINES should be laid down and covered with earth.

STRAWBERRIES for forcing should now be put into a frame, first making the bottom dry with coal ashes or cinders, keeping them uncovered during the day, and well secured from frost at night.

PEAR, APPLE, and other fruit-tree seeds may be sown now in well prepared ground.

FLOWER DEPARTMENT.

The weather has been highly favorable for preparing for winter, and by this time everything should be well housed, and in the very best order. As the weather becomes cooler, plants in cold frames should be well matted over on frosty nights; and when this is attended to a great many greenhouse plants do far better than crowded in-doors, and coddled with heat. Be cautious about making heavy fires early in the season; as little as possible to keep out frost is far the best, unless it is intended to force in order to bring on early flowers. A temperature of 45° to 55° at night is ample.

CAMELLIAS will soon begin to open their flowers. See that the foliage is clean; if not, wash carefully with a sponge. Nothing detracts more from the beauty of this superb plant than dusty, dirty foliage. Water carefully, and syringe occasionally. Give the plants the coolest part of the house.

AZALEAS, now carefully housed, in a cool place, should be very carefully watered; as upon this will the health of the finer sorts depend. Syringe occasionally, to keep the foliage clean. Improve every opportunity to tie the plants in handsome shape, either conical, round headed, or pyramidal.

PELARGONIUMS will now be making a fine root growth, and, if properly attended to, will be ready for repotting next month. Keep them near the glass. Turn the pots round every week, and water rather sparingly. Top all rampant growths, and give an abundance of air at all times.

CINERARIAS should soon be repotted. Keep them in a cool place, near the glass, and fumigate, before the green fly injures the plants. Young seedlings may now be potted off.

CYCLAMENS should be kept in frames as long as the weather will permit. When removed to the house, place them on a cool shelf, near the glass.

IXIAS AND SPARAXIAS may now be potted.

GLOXINIAS AND ACHIMENES may now be placed away on a dry shelf, under the stage.

JAPAN LILIES, for blooming in the house, early next spring, should now be potted.

VERBENAS, PETUNIAS, and other bedding plants, raised from cuttings, should now be potted off, three or four in each pot.

HYACINTHS, for forcing, should now be potted, and placed in a frame for a few weeks.

CHRYSANTHEMUMS, now coming into bloom, should be watered with liquid manure, occasionally.

MONTHLY CARNATIONS should be kept in a cool part of the house, pretty near the glass. As soon as they require it, repot into larger size.

HEATHS, in frames, may be removed to the house, when the weather becomes cool. Water rather sparingly, at this season.

FLOWER GARDEN AND SHRUBBERY.

Continue to give attention to the lawn and walks, raking up all fallen leaves, and keeping everything neat. Give a dressing of old manure to the shrubs, and single specimens, which will also serve as a protection to the roots.

HYACINTHS, TULIPS, and other spring flowering bulbs, should all be planted this month.

DAHLIAS, still in bloom, as we write, should be taken up before very severe frosts.

HERBACEOUS PLANTS, of all kinds, should be taken up, divided, and reset. Protect with leaves, or strawy manure, before cold weather.

RHODODENDRONS, and other American plants, should have their roots well protected, with a good covering of leaves.

HOLLYHOCKS should be protected in frames.

DAISIES should have a covering of leaves, and boards, or sashes, to keep off cold rains.

JAPAN LILIES, and other lilies, should be planted this month.

CARNATIONS AND PICOTEEES should be transplanted to a frame, where they can be protected in severe weather.

CANNAS should be taken up immediately, and wintered in the cellar, out of the reach of frost.

GLADIOLUS should be taken up, dried quickly, and placed away in bags.

VARIETY IN OUR GARDENS AND GROUNDS.

SHALL we give up the attempt to educate our people up to the standard of European intelligence in Arboriculture? Or shall we continue to labor, as we have for thirty years, to accomplish this object? This is a question which often occurs to us, as we look around us in our occasional rambles in our rural districts, and note the same old trees which thirty years ago were planted, and are still being introduced, as if there were no others suitable for the same purpose. Go where we may, avenues of limes, or elms, or maples, occur over and over again, varied perhaps, once in a while, with an abele, a horse chestnut, or a poplar; and in our pleasure grounds the same repetition is the rule, though there are, happily, some exceptions to it. Yet we seek in vain for that variety which adds so much to the charm of English landscape, or that interests us so deeply in every walk through an English pleasure ground. Take the catalogues of our nurserymen, and with a very few exceptions, a hundred or so of species and varieties comprise the entire number of deciduous and evergreen shrubs and trees; yet, of this small number, how many can be found in one collection? But if we take the catalogues of the European or Continental nurserymen how does the contrast stand? Why, in one now before us, more than 1500 kinds of hardy trees and shrubs are enumerated, besides 500 hardy enough for the climate of Great Britain. Of one single species, the oak (*Quercus*) there are more than 100 kinds; of the hawthorn (*Cratægus*) 75 kinds; of the maple (*Acer*) 30 kinds; of the ash (*Fraxinus*) 30 kinds; the acacia (*Robinia*) 20 kinds; the horse chestnut (*Æsculus* and *Pavia*) 30 kinds; the beech (*Fagus*) 17 kinds; the apple (*Malus*) 17 kinds; and so on. Of shrubs, there are 50 species and varieties of spiræas; of currants (*Ribes*) 40; Philadelphus, 25; honeysuckle (*Lonicera*) 25; Viburnum, 20; Spindle Tree (*Euonymus*) 12; plum (*Prunus*) 12; althæa (*Hibiscus*) 12; dogwood (*Cornus*) 10, &c. &c.; while of the coniferous

trees the number is immense, all adapted to some parts of the United States, though a majority of them are too tender for the North. Yet of the really hardy sorts, there is quite enough to make a most agreeable variety around every country or suburban home. Why then such a repetition of the Norway spruce and arbor vitæ, everywhere? Where are the noble pines, the broad and magnificent cedars, and the giant spruces, whose summits tower above the highest temples?

Our interesting correspondent, the Rev. Mr. Gridley, in an article in the early part of the volume, has alluded to the introduction of more variety, especially of evergreens, and pertinently inquires why we should rely so much upon the "in-avoidable balsam fir, and Norway spruce," when we might accomplish more "by using also the numerous pines, junipers, arbor vitæ, &c., which give us more novel forms and shades of color." But the evergreens are not all that give us novel forms and shades of color. The deciduous trees and shrubs are quite as varied in their qualities. What greater contrast than the silvery hue of the Rosemary-leaved willow and the delicate green of other species? How different both the summer and autumnal hue of the foliage of the Norway and scarlet maple; or that of the English and American scarlet oaks? The former, verdant even after heavy frosts; the latter, one glow of scarlet ere they have nipped the tenderest plant; one with its small, roundish-lobed, the other with its large, sharply-toothed leaves. How different the American beech, one of our grandest trees, from the English cut-leaved, or the English purple? And even in the well known elm, how much is there of variety in the purple-leaved, crisp-leaved, broad-leaved, twiggy-branched, Scotch, and other kinds?

But leaving out the variety of our more familiar trees, how few know the beauty, or at least avail themselves of it in their gardens and grounds, of those more rare, though many of them indigenous and abundant in our woods and forests: these are the magnolias—*acuminata*, *tripetala*, *auriculata*, and *cordata*; superb, both in foliage and flowers; the gems of deciduous trees. The liquidamber, with scarlet, purple, and gold-dyed starry foliage; the Hop hornbeam, covered with its hop-like catkins; the Tupelo tree (*Nyssa*) one single speci-

men of which—for it rarely grows in groups—lights up with its fiery foliage the sombre hue of some swampy woodland. How few recognize in the scarlet and yellow flowered horse-chestnuts, any relation between them and the common white. How pleasing the contrast of the *Carragana arborescens*, with its yellow, and the Judas tree, with its rosy-colored pea-shaped blossoms? The *Cornus florida* suggests the idea of a huge tree rose, so much does its large snow-white bracts resemble the single white or Cherokee rose of the South; and of the hawthorns (*Cratægus*) a group of small trees, natives of both continents, cultivated in every English garden—its beauties sang by the poets—how few of the 75 kinds are even known by name? Yet they are very different from each other, both in blossom and fruit, as well as in foliage and wood. Thirty, out of forty kinds imported more than twenty years ago, form a collection of this attractive tree whose beauty and variety have been a constant source of pleasure and delight. In winter their thorny spray; in spring their varied blossoms; in summer their dense foliage, and in autumn their many colored berries—some scarlet, some green, some yellow, some black, either large, medium-sized, or very small—all contribute to render this group of the highest interest and value. “Where indeed,” asks the late Mr. Loudon, “would the planter find a genus which would afford him so many resources as that of *Cratægus*?”

But these are not all. We have yet that abundant tree of the Middle States, the Tulip, whose thick, deep green, and ample foliage, and large cup-shaped flowers, stamp it as one of the noblest objects in ornamental plantations; also the *Virgilia*, a western tree, but hardy everywhere, whose clusters of locust-like blossoms depending from its leafy branches render it always highly beautiful; the *Ptelea*, recently christened and introduced as the hop-tree—from the abundance of its chaffy seeds, borne in masses all along the branches, which answer as a substitute for the hop. But we prefer to buy our hops and leave the seeds to ornament this very pretty tree.

The ash and the lime are no exception to the general variety, for we have the cut-leaved and broad-leaved linden, the latter with leaves nearly a foot broad; and the gold-barked

and red-twigged, &c. Of ashes, the myrtle-leaved, and walnut-leaved; the aucuba-leaved, and gold-spotted-leaved, as well as the dwarf globe-headed; and of the Mountain ash, the oak-leaved, pear-leaved, and elder-leaved. The Kentucky coffee tree, with its sparse blunt shoots, and huge seed pods. The Salisburia, or Maidenhair tree, unique in its foliage. The Sophora, with its mimosa-like leaves, and clusters of white blossoms—these and many more are but a part of the immense variety which have been introduced into the parks and pleasure grounds of Great Britain, and to the collections of a few of our enthusiastic and tree loving American nurserymen. We leave out altogether the great number of variegated-leaved trees which have been so recently introduced that they are yet rare even in choice collections.

Our space would fail us if we should attempt a similar enumeration of our ornamental shrubs, which have been augmented within a few years by introductions from China and Japan, and by hybrids of European or American origin. The enumeration in Loudon's Arboretum is very large, but the additions since its publication would make a respectable volume; and, thanks to Mr. Fortune, the latter have been of unusual beauty; how much, indeed, are we indebted to the labors of this indefatigable collector? How much should we lose were our gardens destitute of the Weigelias, the Spiræas, and other shrubs sent home by him. One native shrub of exceeding beauty we cannot omit to notice; this is the *Stuartia pentagynia*, from the woods of Virginia, as hardy as the Fringe tree, with white blossoms, as large as an althæa, and of the texture of a camellia, blooming late in summer when most other shrubs are out of flower; it cannot be too highly commended, nor too generally introduced. Its recent introduction is another instance of the neglect of our own indigenous shrubs. The later acquisitions from Japan, now just being introduced, of which the variegated-leaved honeysuckles and the double *Deutzia* are examples, it is hoped will prove as hardy as the exquisite double *Prunuses* from the same country.

Let us take an imaginary walk around some suburban garden, noticing its ornamental shrubs, and, though beautiful

as far as they go, see how much they surprise by their novelty, or interest by their repetition. First, in a prominent place because new, is the *Weigelia*, and then the *Spiræa prunifolia*, perhaps the *S. callosa*; these are late acquisitions, introduced only 8 or 10 years ago, and are alluded to as new and beautiful, as they truly are; here a Norway spruce; there an arbor vitæ. Then we pass on by lilacs, tree honeysuckles, smoke trees, althæas, &c., till we reach a prominent place, where we find the weigelias and spiræas again, varied as we go on by some other common shrubs, Norway spruces and arbor vitæ, till another conspicuous point shows the weigelia and spiræa once more; and thus we have the same things over and over, the whole variety so limited as to be counted on our finger's ends, and leaving upon the memory no recollection of anything novel or rare—simply a repetition of what we see everywhere, one garden being a copy of all. Being fond of variety as well as beauty, we inquire for the Fringe tree—it is unknown—for the double Chinese plum—the same reply—the *Hypericum*, the purple berberry, the hydrangeas, the azaleas, the rhododendrons, the kalmias, the white Japan pear, the clethra—and still the same answer, they are not known; so slow is the introduction of novelties, either from a want of interest in them, or ignorance of their existence.

How different the impressions of a ramble through a garden yearly enriched by additions of new and rare shrubs. How eagerly the visitor turns his attention this way to note some new form or color, or the other to detect some novel foliage, or peculiarity of growth. What is this? or What is that? he anxiously inquires. Ah! I must have it in my collection. Here for instance he passes a group of spiræas; this is the old and pretty *trilobata*, with its pendent branches wreathed with umbels of snowy flowers; that, the *prunifolia*, taller, and equally handsome; this, *callosa*, with its flat cymes of rosy blossoms; that, *Billardii*, with spikes of the same color; this, the *Regeliana*, similar to the last, but its flower spikes shorter and more dense; that, the *Douglasii*, also of the same style and color, but with silvery foliage. Thus, in a group of many kinds, for there are 30 or 40 of the spiræas

alone, there is great variety, which attract the eye, excite curiosity, and require a study of their diverse qualities. Here we have a change in the coniferous trees. A fine specimen of the *Abies Nordmaniana* stands conspicuous; near by, the *Thuja borealis*, *Cupressus Lawsoniana*, Canadian Yew (*Taxus*), *Juniperus sinensis*, the Dwarf Spruces so curious and pretty, *Thuja Hoveyi*, &c., all backed by a *Pinus pyrenaica*, or *P. cembra*. We pass on to the group of syringas (*Philadelphus*) and, common as they are, no one would fail to be struck with the profuse blossoms of the *thyrsiflorus*. Next a cluster of various shrubs, among which are the purple-leaved berberry, forming a marked contrast with the snowy foliage of the *Hydrangea nivea*, whose broad heads of white flowers are produced in succession from July to October; the *Euonymus latifolius*, conspicuous for its orange-colored seeds, hanging from their very large red pendulous capsules; and the *Magnolia conspicua*, one mass of large white fragrant blossoms before a green leaf makes its appearance. A fine fringe tree—with its magnolia-like leaves and depending clusters of white blossoms, like silvery tassels—stands alone, as if conscious of its distinct beauty: then, a group of azaleas, with their white, buff, yellow, orange, or crimson blossoms, backed by the large evergreen glossy foliage of the rhododendron or kalmia, and set off by the huge clusters of rose or purple blossoms of the former, or the delicate pink-tinted corols of the latter. How the lover of beautiful shrubs lingers over this group! exclaiming often, “Are they hardy? Why I thought the rhododendron could only be grown in the greenhouse!”

And thus we might go on with the entire tour of the garden or pleasure ground, of a real lover of trees or shrubs, and show its attractions, its novelties, and its beauties; but we should repeat much that we have said before. Our object is to show the necessity of more variety in our collections of trees and shrubs, and if possible impart some knowledge of what this variety consists. As we have stated, there are a few—too few by far—who appreciate or possess most of the novel or beautiful shrubs, but the task of introducing has been difficult and slow, and we need assistance in so good a work. Will not some of our enthusiastic amateurs come to our aid?

WAYSIDE SHRUBBERY.

BY WILSON FLAGG.

THERE is a class of people in the world who have a great passion for smoothness and rotundity. They cannot bear to see anything in the landscape that does not convey the idea of costly dressing and polish, coinciding with what they believe to be the evidences of wealth and artistical culture. In their sight nothing is so beautiful as a well-clipped hedge-row, or a nicely painted fence. Though they possess no more than ordinary culture, they abhor any indications of rudeness; and they believe, that the more completely nature is subdued by art, the more credit she reflects upon *her owner!* They regard nature as they do their horse, and think if she can be made to look sleek and plump they have done their duty, as improvers, and have established their claims to the character of civilized beings.

Unfortunate are the picturesque old roads that happen to fall under the management of this class of men, when employed as surveyors of the highways. They believe that nothing which is produced by nature rightly belongs there, except the rocks and the gravel, and the trees which have been systematically planted there by human hands; and they determine that no spontaneous production shall grow upon the road-side. If they are employed in mending a road, all spontaneous growths of shrubbery are immediately condemned to destruction. If it be fringed and embroidered with a charming variety of native shrubs and herbaceous plants; at one season adorned with flowers, at another with fruits, and at all times with a variety of foliage, they send the plough directly into this mass, turn it over with the sods, and then, perhaps, leave it in this condition, for the want of pecuniary means to carry out and finish their design of smoothing.

The passers on this road formerly wended their way along a footpath that led through this miscellaneous shrubbery; and the children of the village, as they went to school and returned, would often linger here to gather flowers and fruits, or sit down on some mossy clump, under the shady protection of half-grown trees, which had come up here without planting.

The surveyor and his gang have spoiled this footpath, and destroyed the bushes with their blossoms and their berries; and the children, no less than the birds, lament this destruction of their pleasant wayside haunts. Ever since my childhood have these vandals of the highway been deservedly cursed, as the despoilers of nature, and the clumsy agents of "tasteful" improvement.

In great thoroughfares, which are frequented by an endless crowd of passengers, sidewalks are necessarily laid bare, and neatly gravelled, for the accommodation of travellers; and in such places shrubbery could not grow, even if it were planted. Here there is a necessity for removing all bushes and other tall plants from the wayside, where they would be exceedingly annoying to passengers. It is on by-roads and highways not much frequented; in all roads, indeed, in which the passing is not sufficient to prevent its coming up spontaneously and thriving luxuriantly, that it ought to be preserved. The time will come soon enough in these days of railroad progress and devastation, when the circumstances of the population will render their removal a necessity. But let us wait until this necessity arrives, and not from a false idea of neatness destroy one of the most interesting features of rural landscape.

There is another class of despoilers who pursue their operations as private citizens. The most of these are "model farmers"—men who think that all nature should be made subservient to labor, and labor to capital. If you stroll along the fences of these industrious vandals, you will observe the baldness and nakedness of all their borders. Not a shrub can with impunity lift up its head above the ground, on either side of the fences. We can distinguish the possessions of these model farmers, as we pass along the road, by observing that their owners prefer trimness and baldness to native luxuriance. Their "Nature" is a young damsel, with her hair tied up in knots, as distinguished from one whose neatly-flowing tresses hang down her neck in careless freedom. From the highway-side of their fences they have carefully removed every shovel-full of soil to their farms, not because it has any peculiar value, but they must cart it away from the roadside,

to prevent the growth of shrubs, and to create that baldness which in their eyes is significant of thrift, industry, and taste! Economical as they may be of labor, they forget their frugality when they are rooting up the beautiful shrubs on the way-side, considering it a work of necessity, similar to that of clearing caterpillars from their orchard.

I cannot believe that these men are totally insensible to the beauty of these charming growths of native shrubbery; but they are unable to appreciate their value. They are affected with an hallucination that makes them regard a bush as a nuisance; as something that is incompatible with their own credit or with the thrift of their farms. They think that wild shrubbery harbors vermin, though they do not object to a formal-clipped hedgerow. If it harbors insects, it protects also the birds that feed upon them; if it causes the multiplication of small quadrupeds, it supplies also the mast upon which they are sustained. We ought to consider, however, that in proportion as this wild shrubbery has been eradicated from the borders of the fields, the insect pests that destroy our crops have increased; for those which were formerly attracted by the shrubbery are now driven back into the bosom of the farm, and the birds that once found protection there, have fled to distant places, and left the insects free to commit their ravages unmolested.

There is a certain kind of beauty in high cultivation; there is beauty also in neatness; there is even a sort of relative beauty in baldness, when it is evidently necessary to make a free and convenient passage for a constantly passing crowd. Probably there is no man who cannot appreciate the beauty of a well-cultivated farm; nor is there any one who would prefer rubbish and litter to neatness. But when the question arises, whether the neatness that comes from perfect smoothness and blankness, like that of a gravelled roadside, weeded of every bush and herb, is more pleasing to the sight, than the rustic beauty of another sidewalk, covered with a variety of shrubs, and intersected by a footpath for travellers, there are but few, however sordid, who would not prefer the shrubbery.

No man would contend that bushes ought to be allowed to grow where they would interfere with the passing of travel-

lers, nor where they would occupy the place of the valuable products of the farm. But on those by-roads, or highways, on which there is but little passing, all kinds of native shrubbery should be protected, for its value as well as for its ornamental appearance. It contributes greatly to the beauty of the road, and the pleasure of those who walk and those who ride there. It feeds and harbors the birds which in highly-cultivated districts are not sufficiently numerous to keep down noxious insects. Insects, in their different stages of existence, multiply in proportion to the increase of cultivation, or of farming and horticulture; for almost everything helps to feed them that is scattered upon the soil for the nourishment of its products. Birds which are the natural checks to the multiplication of insects, would abound in proportion to the increased supply of their insect food, provided there was a harbor or shelter for them in the vicinity. Birds, as well as men, need a habitation; and how great soever their supply of food, they will leave it, if there are no thickets of trees and shrubs to afford them a haven and a nursery for their young.

The most interesting collections of this natural shrubbery by the wayside I have witnessed in old roads, in those parts of the country where the people have paid no attention to the precepts of landscape gardening; for this art, which ought to be used for the preservation of these beautiful accidents of nature, tends, as it is usually practised, to destroy them. I will describe one of these places, to show, if my words can paint the scene, how much natural beauty may spring from a mere accidental combination of a few favorable circumstances. In one situation, after the road had been laid out, a drain was dug by the roadside, in a straight course, for about a furlong. Between the ditch and the stone wall was an even space of turf, green with mosses, which became gradually filled with bushes of several native species. The frequent passing of men and animals have kept a path constantly open through this coppice. In the meantime, on the slope between the sidewalk and the drain, nature has called out a growth of maples, poplars, and birches, in a long and almost formal row. Parties of young persons would often linger in this path, behind the row of trees, and while seated upon a moss-grown

stone, would amuse themselves by looking through the slender stems of these trees, out upon the distant landscape. Half the beauty of a prospect is often caused by the position from which it is seen; and here nature has converted a bald roadside into a grove, without obstructing the way, and formed a recess, fitted to protect the passengers from the heat at noon-day, and from which the prospect is greatly improved.

Another equally beautiful wayside growth of wood had come up in a road that passed through a river valley. Here the space that was designed for the road was very wide, making room for two middle tracks. The sidewalk led along under the projecting branches of a grove of oaks, and was covered with grass mixed with ferns and Christmas evergreens, or lycopods. The opposite side was a slope bounded by an open field. This space was covered with a growth of young pines and oaks, through which was a path bordered irregularly with lambkill, sweet-fern, and whortleberries, and shaded by the branches of the young trees. Here then was a road beautifully ornamented with a spontaneous growth of wood, and by its width serving all the purposes of travelling in the most convenient manner. What a pleasant walk is here laid out by nature for the invalid, who might stroll along this path, shaded and protected by trees. I have children employed here for hours picking whortleberries, where, if the ideas of landscape gardening and "model farming" were carried out, they would find nothing but pebbles. What a delightful Arcadian scene was here preserved in the midst of a thoroughfare, by the fortunate stupidity of the owners of land in this neighborhood!

I tremble, as often as I think how soon the time will arrive, when the improver, with his gang, will enter upon this picturesque old road, and, to carry out his ideas of embellishment, sweep away all these trees, with their undergrowth of evergreens, whortleberries, and wild-flowers; and perhaps with the advice of some "tree association," grade it all to one dead level, and plant a long-extended row of orthodox trees, the dear-bought and far-fetched denizens of a foreign clime, to excite the contempt of our indigenous birds, and insult nature in her own palace.

The growth of spontaneous shrubbery by the waysides, and in all other situations in which it is not detrimental to some important agricultural crop, should be encouraged, because it is profitable for shade, and shelter, and a pleasure to the sight. Especially on the sides of roads but little frequented it is a beauty and a luxury. It covers up the nakedness of the stonewall with foliage and flowers, and supplies an abundance of wild fruit for children and the birds. Thousands of bushels of whortleberries would be produced every season, along these waysides, simply by taking care to preserve the shrubs that bear them. These places are now occupied by a straggling and stunted growth of shrubs and trees, which are repeatedly injured by the hewing and hacking of persons who think that for every bush they have destroyed they have done some eminent public service!

I cannot see that a growth of bushes close to the wall or fence diminishes the space that would otherwise be occupied by the farmer's crops. If there be a footpath, it is commonly about two feet distant from the fence; and the space between the path and the wall might be filled with native shrubs, without inconvenience to any person, or detriment to any object. Stonewalls are sometimes elevated above the road upon a bank formed by the excavation of the road where it was built. The footpath, or sidewalk, passes underneath this slope, which might be covered with bushes, to give firmness to the soil and to beautify its appearance.

POMOLOGICAL GOSSIP.

THE ADIRONDAC GRAPE.—We noticed this variety in our last number, and stated that it obtained the premium in New York, as the best grape, “quality to rule.” We notice that our friend Mead, of the Horticulturist, considers this decision of the judges “so extraordinary as to challenge at least a few remarks.” “It must be borne in mind,” he states, “that the prize was for *flavor* alone, without regard to earliness, size, or anything else; yet with the Delaware, Anna, Diana, and

Allen's Hybrid before them, the judges gave the prize to the Adirondac. We do not wish to detract in the least from the character of the Adirondac, which is really a good grape; but in *flavor* it certainly will not compare with any of those we have named, and especially will it not compare with the Delaware. It is almost as if one should compare the Muscat of Alexandria with the Sweetwater, or the Seckel with the French Jargonelle. It is said that tastes differ, and we allude to the subject to let our readers know how widely our taste differs from that of those who consider the flavor of the Adirondac superior to that of the Delaware. Mr. Downing was chairman of this committee; but we are authorized to say he dissents from this decision in the most emphatic manner. With his discriminating taste and large experience among native grapes we should have been surprised if it had been otherwise."

Now this is all in very bad taste, and is poor advice for a horticultural journal to offer. If there is anything important in the decisions of judges, and if their decisions are to have any value, it is that they should be assented to. If the committee were incompetent, they should not have been selected for that object. It matters not the least whether the chairman agreed with the committee or not, (and we have as much respect for Mr. Downing's opinion as Mr. Mead). It is often the case in all committees that a vote is taken and one or even two out of five dissent; that the chairman should be one of these, makes no difference; the majority are to decide. But friend Mead has not stated the case, if we understand it, viz.: that *quality* not *flavor* was to rule. It may be said that flavor is quality, but we do not so consider it; and as to flavor, we never could see much in the Delaware; as we have before said, it is sweet and good, but wants flavor, and can never be compared to a Muscat; Allen's Hybrid is the same; deliciously rich and sugary, but deficient in that aroma which is so remarkable in the Rebecca, and in the Diana, though the latter is unpleasant to many.

So far as we have had an opportunity to test the Adirondac, we consider it approaches nearer to the foreign grape than any grape of native origin yet known. The complaint is,

that it wants character, and the same may be said of the Hamburgh. If, therefore, the Hamburgh is better than any of our native grapes, the Adirondac most resembles it of any. We certainly concur with the committee in their decision, and though unacquainted with some of them, believe they have decided honestly, justly, and correctly. Our friend, Mr. Downing, it is well known, has always been a great lover of the Delaware, and he may have found it difficult to "conquer his prejudices" in its favor.

EXHIBITION OF GRAPES IN CLEVELAND, OHIO.—A grand Exhibition of Grapes was held in Cleveland, Ohio, on the 30th September, and the 1st and 2d of October, under the auspices of the Grape Growers' Association. A programme of the exhibition was received in September, but not in time to notice in our October number. By the liberality of several gentlemen of Cleveland very handsome premiums were offered, and probably the show of Native grapes was one of the best ever made in the country. The exhibition was held in Lyceum Hall, and we copy in another page, a portion of the report of the committee awarding premiums. It will be noticed that the Adirondac was awarded the prize as the "largest and best bunch of grapes exhibited." In addition to the grapes, there were contributions of various kinds of wines, and also a fine display of cut flowers.

NEW FOREIGN GRAPES.—The production of new grapes by the English and French cultivators is rapidly increasing, and hardly an exhibition is held at which there is not some new variety brought forward, and according to the reports of the committees, most of them have great merit, and have been awarded first-class certificates. The following are some that have been especially noticed:—

Royal Vineyard. Resembles in appearance the Muscat of Alexandria, but not in taste, having no Muscat flavor. So highly, however, did it stand in favor with the Fruit Committee when it was first shown at South Kensington, that they awarded it a first-class certificate, and we must add, that in general appearance it is one of the handsomest grapes in cultivation; a bunch of it, reproduced at South Kensington the other day for further inspection, measured no less than 14

inches in length, and was well spoken of by all who tasted it. It may therefore be regarded as one of the most valuable of the new grapes about to be brought under public notice.

Champion Muscat. Mr. Mellville of Dalmeny Park, exhibited beautiful bunches of the Champion Muscat grape, a kind large both in bunch and berry, possessing a fine Muscat flavor, and, in the opinion of many, one of the best grapes in the world. It is stated that it ripens perfectly along with the Black Hamburgh, which it resembles.

Mrs. Pince's Black Muscat. Raised by Messrs. Lucombe, Pince & Co., who exhibited specimens before the Royal Horticultural Society, Oct. 6, when it was unanimously awarded a first-class certificate. Messrs. Pince & Co. are so fully convinced that this grape is possessed of first-rate qualities, (in which opinion they are supported, not only by the Fruit Committee before whom it has twice been exhibited, but also by numerous competent judges who have this season tested its qualities,) that they have determined upon erecting a house for its especial cultivation. It will be offered for sale in the autumn of 1864.

Other varieties we shall notice at another opportunity,

NORTHERN SPY APPLE.—An enthusiastic orchard-house cultivator sent Dr. Lindley some very superior specimens of the Northern Spy, which were produced on a small tree, in a pot that had never been removed from the house, and the following remarkable commendation of it is added to the brief note of the raiser: "Finer flavored specimens we never tasted of this, the most delicious of United States apples, as well as one of the very finest of table apples. We prefer it to the best Newtown Pippin."

NEW RASPBERRIES.—Several new varieties of the raspberry have recently been introduced to notice. Of their merits we know nothing more than is stated by the originators, or those who offer the plants for sale. As very little improvement has so far been made in this fruit, we do not expect a great deal of these new sorts; still they may have some qualities superior to the older kinds, which entitle them to the notice of cultivators. The kinds are as follows:—

Clarke. Raised by E. E. Clarke of New Haven, and pronounced by prominent fruit growers, who have tested it, of more value than all kinds in cultivation. It is described as perfectly hardy, of larger and stouter growth than any other kind. Increases very slowly. Of strong vital qualities, it will carry a good amount of fruit the same season planted, and produce one or two good canes for the succeeding season. There is usually only three or five outsiders from the stool, or runner plants. Fruit, bright red color; firm, picked at the proper time; sweet, and of the richest and best flavor. The fruit spurs, or branches, usually grow from one to two feet long, loaded with fruit of the largest size and perfect form. The greatest bearer known.

Semper Fidelis. An English variety, just introduced to notice. Recommended by the fruit growers of the west of England as a most productive and superior fruit. The canes are from 10 to 12 feet in length, and the fruit proportionally large, of fine flavor, pleasing red color, and very solid. The canes are of that strength, and the wood of that peculiar hardness, that they require no support. The most certain cropper, producing fruit in corymbs, from 18 inches to two feet in length from the bottom of the cane to the top, fruiting in clusters from every eye; producing fruit from July to October. First-class horticulturists have seen the fruit and given testimonials of its merits.

Philadelphia Raspberry. A native variety, found growing in a wood, within the limits of the city of Philadelphia. It is perfectly hardy, requiring no protection during the winter, nor any extra care or culture; will grow in any good corn land; produces immense crops, and sells at high prices. The fruit is large, of a purplish red, darker than the Antwerp, rich and firm, bearing carriage well. Canes purple, very strong, with but few spines, thick and stout, standing upright, without stakes or railing.

DOYENNE DU COMICE PEAR.—This comparatively new pear has proved one of the finest acquisitions we have had for many years. It is as large as the Beurre d'Anjou, ripens up a fine yellow color, with red cheek, and in its melting flesh, as well as sugary and high-flavored juice, surpasses any pear of its season, which is the last of October and all of November.

HARTFORD PROLIFIC GRAPE.—The Agriculturist, in noticing this variety, says: “the fault of dropping its fruit, which some complain of, is remedied by proper pruning and not allowing the vine to overbear.” We may inquire, is this so? We should like to know what the system of pruning is. Such advice may answer for some people, but intelligent men know it is all sheer nonsense. No kind of pruning will prevent the Hartford Prolific from dropping its fruit, any more than it will prevent any tree from dropping its leaves after the first hard frost. If gathered a few days before it is quite ripe, it is possible to get a whole bunch, though, twenty-four hours afterwards, the least shaking will leave scarcely anything but the stems.

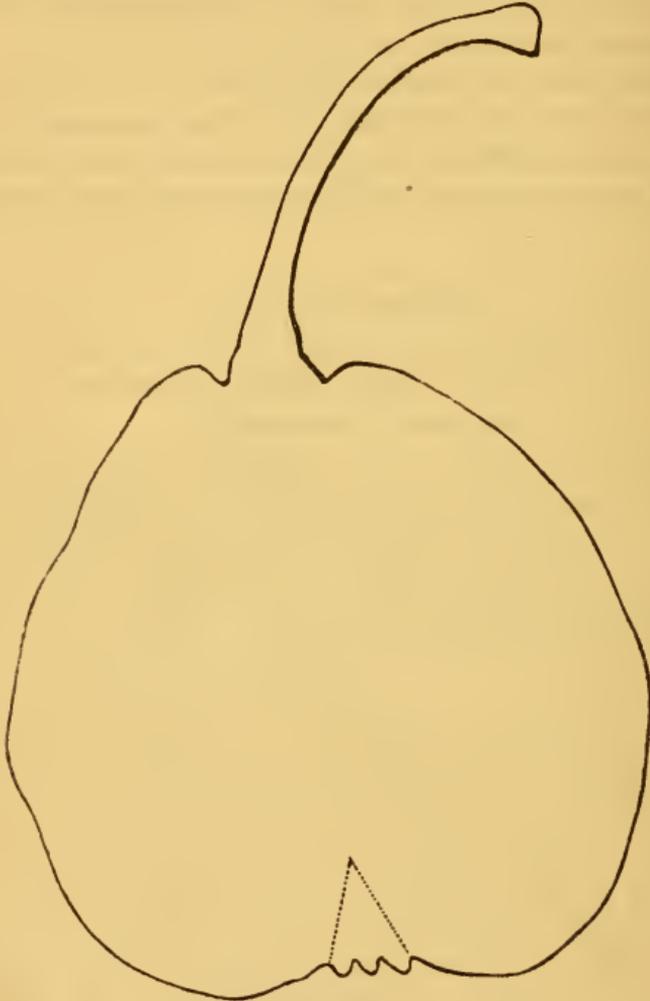
THE EDMONDS PEAR.

BY P. BARRY, ROCHESTER, N. Y.

At the Exhibition of the Pennsylvania Horticultural Society, we met Mr. Barry of Rochester, and accidentally in some conversation about new pears, Mr. B. mentioned a new variety which originated near Rochester many years ago, but, from some cause, its merits had been overlooked; he praised it so highly that we were anxious to see the pear and test it ourselves, and Mr. Barry kindly promised to send us some on his return home. A week or ten days afterwards, about the first of October, we received a box containing several pears, some of them over-ripe, but the larger part in fine condition for eating. Quite unexpectedly, we found even the riper specimens good, and the sound ones quite up to, if not beyond the character given it by Mr. Barry. We pronounced it much superior to the Bartlett, and comparing favorably with any pear of its season. It is one of the very few long-stemmed pears that we have found to possess superior qualities.

It is rather remarkable that two of the very best American pears should have grown in the immediate neighborhood of so many cultivators and nurserymen as the city of Rochester contains, for 20 or 30 years, without their merits being known. The Swan's Orange was presented before the Rochester Hor-

tical Society, and fruited many years before scarcely anything was known of it, and we believe the first knowledge of its existence, out of the vicinity of its origin, was obtained from our Magazine. And now we have the Edmonds, which we think will prove as valuable as Swan's Orange, from the same vicinity, where it has been in bearing a long period. We



22. EDMONDS PEAR.

are therefore highly pleased in being able, through the kindness of Mr. Barry, to give the first account of the Edmonds, as we did of the Swan's Orange pear, with the aid of Mr. J.W. Bissell, who sent us beautiful specimens, weighing 13 ounces each.—Ed.

Dear Sir:—Since I saw you in Philadelphia, I have ascertained that the pear which I described to you, and of which I sent you specimens to Boston, is a seedling not yet disseminated or named, and the history of it is as follows:—

In the year 1859, we first discovered this fruit on a tree apparently about 20 years old, on a farm occupied by us as a nursery. The tree appeared to be grafted, and we inferred that it was some old kind.

Lately, however, we traced it to another farm in the same neighborhood, and there we obtained its history.

It appears that Eliphalet Edmonds, now deceased, sowed some pear seeds obtained from the east some forty years ago, on his farm, in the town of Brighton, near this city.

This variety was a part of the product of that sowing. The original tree stood near a hog-pen, and was destroyed some 16 or 17 years ago. From the roots a sucker came up, which was transplanted, and is now a tree some 15 years old, standing on a grass plot, on the same farm, now occupied by Mr. Edmonds, son of Eliphalet Edmonds, above named. Previous, however, to the death of the original tree, a neighbor had obtained some scions from it, and grafted the tree which we first discovered. These are the only two bearing trees that are known to be in existence, both in the neighborhood of 20 years old.

It is a noble fruit. In my notes of September 27, 1859, I find it rated as a rich melting pear, superior to the Bartlett.

Fruit, large, 3 to 3½ inches, and some even as much as four inches in diameter, roundish, slightly contracted towards the stalk; stalk, two inches long, enlarged at the base, and inserted in a shallow cavity; calyx, large, open, in a deep basin; skin, bright yellow, often marbled with red next the sun; flesh, melting, sweet and perfumed. Season, middle of September to middle of October. Is better to be picked early and ripened in the house.

Tree, a very strong grower, succeeds well on the quince, rivalling the Louise Bonne de Jersey, or any of the best growers. Young shoots drab, with large russet spots on the older parts. Leaves, large, dark green, glossy.

General Notices.

DAHLIAS OF 1863.—We give below the Award of Prizes at the Grand Dahlia Exhibitions of London the past autumn, which will serve as a guide to dahlia lovers in planting next season. The Royal Horticultural Society held their great Autumn Exhibition, Sept. 9, when great quantities of dahlias were shown and in fine condition:—

BEST 48 BLOOMS to Mr. C. Turner, for Norfolk Hero, Andrew Dodds, Mr. C. Waters, Donald Beaton, Mrs. Trotter, Warrior, Seedling (yellow), Sidney Herbert, Miss Pressley, Seedling (purple), Mrs. Church, Mr. Stocken, Criterion, Garibaldi, Princess of Prussia, Midnight, Madge Wildfire, Mrs. Bush, Grand Master, Triomphe de Pecq, Goldfinder, Preeminent, Seedling (white), Seedling (rosy lilac), Lord Cardigan, Beauty of Hilperton, Hugh Miller, Lord Derby, Delicata, Mrs. W. Pigott, Gen. Jackson, Sir Geo. Douglas, Lady Popham, Bob Ridley, Mrs. Henshaw, Earl of Shaftsbury, Chairman, Juno, Pioneer, Charlotte Darling, Lord Clyde, Volunteer, Geo. Elliott, Umpire, Mauve Queen, Cygnet, and Lord Palmerston.

FANCY DAHLIAS. The finest blooms among them were, Harlequin, Countess of Bective, Pauline, Starlight, Elegans, Queen Mab, Confidence, Lady Paxton, Miss Jones, Mrs. Crisp, Norah Crena, Mad. Sherrington, Summertide, Fairy Queen, Mrs. C. Kean, Countess of Shelburne, Pluto, Zebra, Garibaldi, Rev. J. Dix, Triomphe de Roubaix, Mrs. Wickham, Duchess of Kent, Leopold, Oliver Twist, Flirt, Elizabeth, Mary Lander, Prince of Wales, Gloire de Kain, and Gem.

The Brighton Horticultural Society held their Autumnal Show on the 16th and 17th September, but the names of the flowers are not all given. The report says that the "Dahlias were unusually good," and beautiful blossoms were shown of Cygnet, Earl of Shaftsbury, Miss Henshaw, Lord Derby, Midnight, Model, Delicata, Andrew Dodds, Pauline, Juno, Bellona, British Triumph, and Hugh Miller.

In Fancies, Baron Alderson, Chas. Perry, Pluto, Lady Paxton, Duchess of Kent, Summertide, Comus, Norah Crena, Magpie, and Pauline.

CHRYSANTHEMUM EXHIBITIONS.—The English cultivators continue to encourage the growth of this most beautiful autumnal flower, by the institution of societies especially devoted to the exhibition of the finest plants and flowers, offering very liberal premiums for skill in cultivation, as well as for superior specimen blooms. The exhibitions for 1863, of some of these societies, have recently been held, and the reports have just reached us. Believing many of our own cultivators will be glad to know which are the best and newest kinds, we copy the following account of the display of the Stoke-Newington Chrysanthemum Society, held Nov. 9 and 10.

The display, both of plants and cut blooms, was all that could be desired. The plants were ranged all round the rooms, the central portion being occupied by the cut blooms and a row of pyramid pompons.

For Six Plants, a prize was awarded to Mr. Forsyth who had, Prince Albert, Defiance, Alma, Annie Salter, Aregina, and Lady St. Clare. Mr. Howe furnished excellent plants of Lord Ranelagh, Lady Harding, Orange Perfection, Draco, Helene, and White Christiné.

For Six Pompons, Mr. Forsyth was first, with excellent examples of Cedo Nulli, Durufflet, Golden Cedo Nulli, General Canrobert, Helene, and Rose Trevenna. Mr. Howe was second. Excellent plants of Mr. Astie and Annie Salter were also shown as single specimens, and well deserved the prizes which were awarded them.

Three Pyramidal Pompons from Mr. Howe, consisting of General Canrobert, Cedo Nulli, and Helene, were beautiful examples of that description of training, and those from Mr. George, Stamford Hill, who was second, were also good.

Of Cut Blooms there were several stands. In twenty-four, Mr. Cattell of Westerham had the first prize, having amongst yellows, Plutus and Jardin des Plantes; Cassy, orange; Beauty, peach blush; Queen of England, Mrs. W. Holborn, and lucidum, white; Her Majesty, silvery blush; Alfred Salter, Rifleman, Raymond, Mad. Audry, Hermione, Aregina, and Fabvius.

Mr. Slade was second, having amongst others, Beverly, a fine cream white; and Amie Ferriere, a white variety, delicately tipped with blush.

Of anemone-flowered varieties there were several good stands. Among large kinds were George Hock, Gluck, Lady Margaret, and Louis Bonamay. Among small varieties were fine examples of Madame Senter, and M. Montels, white; and Antonius and Marguerite de Wildemar, yellow.

STRAWBERRY RUNNERS.—I have read with interest the remarks concerning the Runners of Strawberries, and as they conclude by recommending further experiments to be made, I beg leave to make some suggestions as to the manner in which some of these experiments should, I think, be conducted.

I must premise that I consider it very important to keep in mind while making these experiments Mr. Knight's sensible observation quoted by you, viz., "that every runner is, in its incipient state of formation, capable of becoming a fruit stalk, and if too great a number of runners be taken off in the summer, others will be emitted by the plants, which would under other circumstances, have been transmuted into fruit stalks." The strawberry plant being naturally inclined to produce runners, this natural tendency cannot be much opposed without doing injury to the fruitfulness of the plant. Several years ago, I tried an experiment on some strawberries by planting them about three feet apart every way, and cutting off during the summer every runner soon after it made its appearance. The consequence was that as soon almost as each runner had been taken off another or more appeared in its stead, the leaves at the same time becoming very luxuriant, and the plants seeming determined to have their own way; and in order to carry on the war with their unnatural antagonist, before the end of the summer, all the resources of the plants that ought naturally to have gone towards producing blossom buds, were exhausted in the unexpected strife,

and what would otherwise have been dormant blossom buds were compelled to become runners in order that the strong natural propensity of the plants to propagate their kind by runners might not be overcome. Of course there was no fruit next year.

After reading your remarks this question suggested itself to me:—Why should not the summer pruning (so to speak) of the strawberry be conducted in a similar manner to that of our fruit trees, seeing that the object and the principles involved are much the same in both cases. Fruit trees if too much stimulated by excessive pruning would, like strawberries, produce plenty of fine leaves but no fruit. The most generally approved plan of treating fruit trees is to follow a middle course between allowing them to grow without control, and pruning them excessively. The practice is, more especially in the case of those trees intended to be kept of a moderate size, to pinch off the ends of the young shoots as soon as they have grown four, five, or six inches in length, according to circumstances, reserving a sufficient number of buds on the lower part of each shoot to form fruit buds, besides one or two buds at the top of the shoot, on which latter buds to allow the tree to exhaust its superfluous energy, and thereby save those buds reserved for fruit from breaking out into wood shoots. If these upper buds produce wood shoots, these secondary shoots are pinched in to one or two buds; and so on during the summer with other shoots that may be produced, always taking care that the lower buds reserved for fruit buds be not stimulated to become wood buds by pruning too close to them. If these buds are not too much stimulated, this mode of pruning is the means of more strongly developing them as fruit buds.

Now the practice which I have endeavored shortly to describe, having been found so successful in the case of fruit trees, I would suggest that experiments be made in a similar direction with strawberries. When the strawberry runners have made two or three joints, let them be stopped at the first or second joint, and if these stopped runners should produce other runners, let these latter be stopped at the first joint, and so on during the summer. The propagating energy of the plants would thus probably find sufficient exercise in feeding the stopped runners without breaking into runners those dormant buds which ought to produce blossom the following year. On the contrary, these dormant buds would probably (as in the analogous case of fruit trees) be by this practice only so far stimulated as to be strengthened to produce fruit the following year. Another advantage would probably attend this practice; the rooted joints of the stopped runners would make fine plants for transplanting in the autumn, when the runners ought all to be cut off close to the mother plants. This mode would probably on the one hand avoid the too great excitement of the plants by excessive excisions, and on the other the impoverishment of the plants and soil by a wilderness of runners.—(*Gard. Chron.*)

HANGING BASKETS.—During last summer I saw a great many hanging baskets—some so remarkably pretty, and so green and flowery—others so very leaf-bare, so dried up and so miserable, that perhaps a few words on their contrasts may be of use to the owners of such as the latter ones are.

The galvanized or green-painted wire baskets seem to be so popular, and they are so light and so easily suspended, that perhaps they may be regarded as the best and most usual basket type. Those of rough wood interlaced, and those made of earthenware, resembling closely-set pine sticks, though they are exceedingly pretty, are less easy to suspend, and perhaps it is for that reason that we see them more rarely.

But for the wire baskets! How long are we to meet with them with neat tin linings inside, seemingly made to hinder all the pretty and graceful ways in which the bright flowers creep out?

The three most exquisite flower baskets I ever saw in my life were three that were in the gloxinia house at Mr. Veitch's nursery. To see the gloxinias was itself well worth a visit, but really those hanging baskets were something complete and perfect. They were a thorough lesson on what hanging baskets should be.

And of course they were very simple—just a green sphere of moss, the common *Lycopodium*, that matted itself on the frame, and amidst the bright green, twining in and out, clinging and wreathing round, went in one basket white *Thunbergia*, in another red *Achimenes*, and in another most lovely one the beautiful blue *Torenia asiatica*. The exquisite contrast or harmony of the colors, the deep rich velvet purple of the open flowers, resting on the dark green that seemed of the self-same depth, although of a different hue, the pretty elegant twinings and the tiny sprays and tendrils, so close and yet so natural—all these things seemed to mark that basket as a real gem.

And the next day I saw some "well assorted baskets"—a fern and a lobelia, and I think a red verbena! They grew up straight and proper, and hung over just where they should do; and of all hideous things they were just about the most hideous.

The beautiful ones, however, are no harder to manage than these. Every one knows how beautifully one Moss roots on another. The loveliest green lycopodiums that I have ever had, were those that grew self-planted on mats of brown English Hypnum—that common moss of our woods. This moss then may be well dried and made into a ball, placed in the wire basket, and thoroughly well soaked through. Some scraps of lycopodium are then just dotted over it, and a little plant of some creeper, in a little pot, is buried in the centre of the ball of moss. The more light and the less sunshine the basket has the better, and a dip in a bucket of water or a greenhouse tank, is its happiest mode of watering.—(*Gard. Chron.*)

Gossip of the Month.

THE DELAWARE AND CONCORD GRAPE.—The spirited controversy in which, a few years since, so many of our prominent horticulturists were engaged, in regard to the Delaware grape, has subsided, and the public mind brought to the conclusion that it is one of the best, if not the very

best we have. Without pretending to dispute the correctness of this impression, we are far from believing the Delaware the best of our native grapes. Admitting the fineness of its flavor, compactness of bunch, freedom from pulp, and general productiveness, our own taste incline us to the Concord, in preference. During the past month we have had fine opportunities of testing the comparative qualities of these two celebrated grapes, and while we consider either of them good enough for all general purposes, if called upon to express a preference, that preference would be given to the Concord. A prominent and most successful grape grower writes us, in regard to the Concord, "No other grape is so popular in market, and none yields so quick or handsome a return. Whoever discourages the planting of it, is doing the cause of grape culture a severe wrong. For market or table it is unrivalled."

As a wine grape, we believe the Delaware to be superior, but for table or market, the Concord is greatly to be preferred. As an evidence of the superiority of the Concord for marketing purposes, we need only refer to our dealers in fruit, who assure us that it not only commands a higher price, but a much more ready sale than the Delaware.

The Crevelling has claims to a first position, which must not be hastily set aside. In addition to its being perhaps the earliest grape we have, it possesses the additional good qualities of being a certain and an abundant bearer, as well as having a most luscious flavor, with comparative freedom from pulp. With such formidable antagonists in the field, the Delaware, strong as are its claims, will have a hard struggle to maintain the prominent position assumed for it by its special friends. Had we space for the cultivation of two vines only, one of the two should be a Delaware, but if space for but one, that one should be the Concord. This, we are aware, is assuming dangerous ground, but we are convinced of the correctness of our views, and will stand by them, until we are furnished with good reasons for abandoning them, which we are prepared to do at any moment, when the proof is sufficient. Who will convince us that we are in error?—(*Culturist.*)

THE ADIRONDAC GRAPE.—The discovery and introduction of the Adirondac Grape, is an event of the highest importance to fruit growers, and the greatest advance yet attained by native grapes. Its peculiarities are extreme earliness, large berries and clusters, tender and thin skin, melting, without any perceptible pulp, and of the most delicious and delicate flavor, reminding one of that splendid hothouse grape, the "Black Hamburg."

Two grape exhibitions were held simultaneously, one at Cleveland for grapes and native wines, September 30th and October 1st and 2d, and the other in New York, on October 1st, 2d, and 3d. These exhibitions were largely attended by amateur and professional pomologists, many from surrounding and distant States. At Cleveland a prize was offered for "Largest and best bunches of Native Grapes of any kind." The prize was awarded to John W. Bailey, of Plattsburgh, for the "Adirondac." The second prize was given to the Catawba. At New York a prize was offered for the "Five best bunches of native grapes of any kind, quality to rule."

This prize was awarded to John W. Bailey for the "Adirondac." These awards are substantially the same, and they place the Adirondac at the head of all native grapes.

The editor of the Ohio Farmer says:—

"The 'Adirondac' Grape was here from J. W. Bailey, Plattsburgh, N. Y. Mr. Elliott, of Cleveland, says that the bunches were not as large as those shown at the Pomological Convention held last fall in Boston, but they were better colored—that the bunches then shown must have been gathered two weeks earlier, and were not as high colored as these, nor the flavor as good. As now shown, the berries were bright shining black, and we call the flavor the very best of any grape in the room. Mr. Elliott tells us that Mr. Bailey wrote him that these were gathered from a young vine, and after the best bunches on even that vine, had been gathered for other exhibitions. The committee made this the premium grape, and we coincide in their judgment. Here let us also say that probably no better committee could have been made up in the United States. Mr. Lyon and Professor Kirtland, both men acquainted with grapes, and both amateur growers, while Mr. McIntosh is an old nurseryman, with twenty odd years acquaintance with fruit, but now a nurseryman no longer, having sold out to his sons. No one of the committee, therefore, could possibly be accused of 'having an axe to grind.'"

Societies.

GRAPE GROWERS' ASSOCIATION.

An Exhibition of Grapes and Wine was held in Cleveland, Ohio, Sept. 30, under the auspices of the Grape Growers' Association. Very liberal premiums were offered by gentlemen of Cleveland, and the exhibition was both large and fine. Upwards of forty varieties of grapes were shown. The prizes were awarded as follows:—

The undersigned Committee, appointed to award the premiums offered on grapes, exhibited at the exhibition of the Northern Ohio Grape Growers' Association, now being held at this place, respectfully submit the following report:—

The first premium, offered by the proprietor of the Weddell House, for the largest and best collection of Hardy Native Grapes, is awarded to entry No. 1, Charles Carpenter of Kelly Island, for a collection embracing forty-three varieties, \$25.

The second premium, to entry No. 2, C. Wiegel, Cleveland, for a collection embracing twenty varieties, \$5.

The first premium, offered by J. P. Ross, Esq., of the Angier House, for the largest and best collection of grapes, three bunches each, attached to the vine with one or more leaves, is awarded to entry No. 1, Charles Carpenter, Kelly Island, for a collection embracing twenty varieties, \$10.

The second premium, to entry No. 2, for a collection of sixteen varieties, George Morgan, gardener to J. Perkins, \$5.

The first premium, offered by Joseph Perkins, Esq., for the best twelve plates of native grapes, not less than five bunches each, is awarded to entry No. 1, Charles Carpenter, embracing Delaware, Rebecca, Isabella, Tokalon, Lydia, Diana, Mottled, Allen's Hybrid, Concord, Crevelling, Eliza, Catawba, \$10.

The second premium, to entry No. 2, C. Wiegel, embracing Marian (an unknown variety), Delaware, Herbemont, Rebecca, Cuyahoga, Union Village, Concord, Ontario, Diana, \$3.

The first premium, offered by Capt. Benjamin Stannard, for the best twelve bunches of any kind, quality to rule, is awarded to entry No. 2, C. Wiegel, embracing Isabella and Catawba, \$5.

The second premium, to entry No. 1, Thos. Gould, Cleveland, Isabella, \$2.

The first premium, awarded by Wm. Hewitt, Esq., for the best six bunches of Delaware grapes, is awarded to entry No. 8, C. Wiegel, \$5.

The second premium, to entry No. 3, John Wolfly, Delaware, \$1.

The premium offered by Geo. Leick, Esq., for the five best bunches of Diana grapes, is awarded to entry No. 3, J. A. Brayton, Painesville, \$3.

The first premium, offered for the six best bunches of Concord grapes, is awarded to entry No. 1, Geo. Morgan, gardener to J. Perkins, Esq., \$2.

The second premium is not awarded.

The first premium, offered by John F. Warner, Esq., for the best six bunches of Catawba grapes, is awarded to entry No. 2, Daniel Stewart, Cleveland, \$3.

The second premium, to entry No. 4, W. Dunham, Collamar, \$1.

The first premium, offered by James F. Clark, for the best six bunches of Isabella grapes, is awarded to entry No. 2, Daniel Stewart, Cleveland, \$3.

The second premium, to entry No. 1, Geo. Morgan, \$1.

The first premium, offered by Chas. Chandler, for the best four bunches each, of Diana, Delaware, Concord, and Catawba grapes, is awarded to entry No. 2, Charles Carpenter, \$3.

The premium offered by John Hoyt, Esq., for the largest and best collection of Ohio Seedling Grapes, is awarded to entry No. 1, Chas. Carpenter, embracing fifteen varieties, mostly shown under numbers, several of which appear to be promising, and one of which—named Charlotte—is very similar to Diana, and may prove in some respects superior to that variety, \$5.

The premium offered by Oliver Alger, Esq., for the best hardy native white or light-green grape, not less than five bunches, is awarded to entry No. 3, Louis Ford, \$3.

The only varieties that came in competition for this premium were Rebecca and Lydia, and it was awarded to the former, which was beautifully grown, while the bunches of the latter were defective.

The premium of five dollars, offered by the Ohio Farmer, for the best seedling unnamed native grape, not less than five bunches, is not awarded, as, although there were several varieties entered, there are none which in the judgment of this committee gave sufficient evidence of merit to justify them in placing them thus prominently before the public.

The premium offered by James Fitch, Esq., for the best three bunches of the Adirondac grape, is awarded to entry No. 1, J. W. Bailey, Plattsburg, N. Y., \$2.

The first premium, offered by R. K. Winslow, Esq., for the largest and best bunch of native grapes, is awarded to entry No. 1, J. W. Bailey, for Adirondac, \$2.

The second premium, to entry No. 2, for Catawba, Daniel Stewart, \$1.

This award would probably have been reversed but for the unripened state of the bunch of Catawba entered for this premium, while the Adirondac entered against it was perfectly mature and of excellent quality.

The committee have carefully examined a collection exhibited by N. R. Haskell of Monroe, Michigan, as new varieties, and regret to say that they find them too imperfectly ripened to warrant the expression of an opinion respecting them.

Varieties claiming to be recent seedlings, were exhibited by Taylor of Bedford, Coe of Norwalk, Hale of Greenwich, and others, but none of them appeared to possess sufficient merit to justify a recommendation.

In conclusion the committee would express their high appreciation of the entire display of this fruit, which they esteem as a valuable study, both to the grape grower and the pomologist.

T. T. LYON, J. P. KIRTLAND, A. McINTOSH, Committee on Grapes.

FRUIT GROWERS OF NEW YORK.

An Exhibition of Grapes was held in New York City, at the office of the Agriculturist, Oct. 1, under the auspices of the New York Fruit Growers. There was a very fine display, upwards of 50 varieties, in all over 700 bunches being placed upon the tables. We condense from the Agriculturist the following notice of the exhibition:—

Among the novelties of the exhibition we mention the Iona, a seedling now fairly before the public for the first time. It attracted much attention among grape growers. Dr. C. W. Grant, the originator, was awarded the first prize for seedlings. The Adirondac was presented by J. W. Bailey of Plattsburg, N. Y., and was noticeable for the size of its berries and their fine flavor. Allen's Hybrid is another of the grapes not generally known. The fruit is white, and has the appearance and flavor of a foreign grape. It was generally regarded a variety of much promise. We regret there was not a better display of Rogers's Hybrids; only two of them were shown, Nos. 4 and 15, by Geo. Seymour & Co. of South Norwalk, Conn. Mr. S. says the vines grew finely, and the fruit ripens with the Concord. The Crevelling, though past its season, was shown by Mr. Merceron of Catawissa, Pa. The fruit is a fine-looking large berry, and very sweet and pleasant. It is commended by several cultivators as the best very early grape, it being a week or so in advance of the Hartford Prolific. A couple of clusters of Loomis's Honey grape were shown by Peter Raabe of Philadelphia. The bunches are fine, the berries large and black, and of a most remarkable sweetness. The vine is said to be hardy. It received a dis-

cretionary premium, and is worth looking after by amateurs. Among the better known sorts, we mention the Delaware first, as it was present in larger quantities than any other sort. It is faulty that the fruit is small, but this defect may be in a great measure remedied by the liberal thinning out of the berries. The Concord was represented by many fine specimens, most of them covered with the fine bloom which belongs to this kind when well grown. This and the Delaware both have their advocates, who claim for each the first place among the grapes for the million. There are good arguments produced on each side. Dianas, exhibited by Mr. Brehm of Waterloo, N. Y., and Mr. Knox, were handsome. The berries were of good size, bunches very compact, of a fine lilac color, and quality nearly first-rate. Union Village is a most showy fruit, although it cannot take a high rank for quality.

There were 51 varieties on exhibition, and a total of 750 clusters. Of the Concord there was 60 clusters, of the Delaware 125, and the Diana 60. The following is the report of the judges:—

Best native seedling which has never before taken a prize, \$10, to C. W. Grant, for Iona.

Best collection of native grapes, \$10, to A. S. Fuller.

Second best native grapes, \$5, to Orange Judd.

Best six varieties of native grapes, \$4, to F. C. Merceron, Catawissa, Pa.

Second best, \$2, to Geo. W. Martin, Brooklyn, N. Y.

Best four varieties of native grapes, \$3, to W. Brooksbank, Hudson, N. Y.

Second best, \$2, to F. Baumeister, East Newark, N. J.

Best five bunches of native grapes of any kind, quality to rule, \$2, to J. W. Bailey, Plattsburg, N. Y., for Adirondac.

Best five bunches Delaware, \$2, to E. O. Eaton, Troy, N. Y.

Best five bunches Diana, \$2, to E. C. Brehm, Waterloo, N. Y.

Best five bunches Catawba, \$2, to W. B. Westcott, New York.

Best five bunches Concord, \$2, to H. S. Young, Poughkeepsie, N. Y.

Best five bunches Hartford Prolific, \$2, to W. Taft, Fordham, N. Y.

Best five bunches Herbeumont, \$2, to C. F. Erhardt, Ravenswood, L. I.

Best five bunches Allen's Hybrid, \$2, to John Hoag, Newburgh, N. Y.

Discretionary prize of \$1, to Peter Raabe, Philadelphia, for Loomis's Honey, in point of flavor.

Obituary.

DEATH OF DAVID HAGGERSTON.—Died, at his residence at Mount Hope Cemetery, Friday, November 6, Mr. David Haggerston, in his 62d year.

We record, with deep regret, the death of Mr. Haggerston, one of the most skilful and practical gardeners of the old school, who has filled many situations of great responsibility, and done as much, if not more, to develop a taste for plants and fruits in our vicinity than any other gardener of his time. An early acquaintance with Mr. Haggerston, when he was proprie-

tor of the Charlestown Vineyard, which he carried on for some time, enabled us to know him well; and during a period of more than thirty years he has been devoted to the true interests of gardening. As a member of the Massachusetts Horticultural Society, he has served on various committees, and filled the office of Chairman of the Flower Committee for three or four years, to the entire satisfaction of every member. It has been our good fortune to act with him at various times, and we do no more than justice when we say, that to his good judgment and sound advice, the Society is indebted for the success of many of its exhibitions; he was always ready to suggest, and quick to act in carrying out the suggestions of others. With excellent taste and great executive skill, the decorative arrangements were entrusted to his care.

Mr. Haggerston came to this country in 1823, having been brought up to the practice of gardening with his father. He soon after engaged with Gov. Gore of Waltham, where he remained until the death of his employer. He then established himself with Mr. J. W. Russell, at Charlestown, and carried on the place known as the Charlestown Vineyard, for the sale of trees and plants; it was while here that he introduced the famous Keens' Seedling Strawberry. Upon the formation of Mount Auburn by the Massachusetts Horticultural Society, in 1832, he was selected to take charge of the grounds; and it was here that his good taste and skill were displayed in carrying out the plans of Gen. Dearborn, in laying out the many avenues and various paths which wind with such easy ascent up and around the elevated parts of the grounds. For some years, and while it needed an energetic man, Mr. Haggerston was superintendent, but upon the purchase of Belmont place, by the late J. P. Cushing, he was again called to his old profession as a gardener. Here he laid out the grounds, and superintended the various departments of the garden, which at one time made Mr. Cushing's place the first in the neighborhood. The conservatory was filled with beautiful plants, and the crops of grapes and peaches, both for beauty and excellence, have scarcely been equalled since that time. It was while gardener to Mr. Cushing that Mr. Haggerston made the important and timely discovery of a remedy for the rose slug, which was then devastating all the collections around Boston. For this discovery he received the award of \$100, offered by the Society, though worth thousands to the community. All lovers of roses will ever remember, with deep gratitude, Mr. Haggerston's services in their behalf. Upwards of 15 years he was gardener to Mr. Cushing.

Subsequently, he was engaged by the Mount Hope Cemetery, a private corporation, to superintend the grounds, and upon its purchase by the city of Boston, he was retained in the place he so well filled. It will be difficult to supply his position.

Mr. Haggerston was a thorough gardener, well versed in every branch, and a man of much intelligence. The arduous duties of his recent position prevented him from taking the active part in horticultural matters which he formerly did, and his absence has been much regretted. Kind and generous to a fault, he leaves a void in a large circle of friends who knew his worth.

Massachusetts Horticultural Society.

Saturday, Oct 3, 1863. The stated quarterly meeting was held to-day. The President in the chair.

In addition to the election of officers, as reported in our last number, the following business was transacted:—

On motion of Hon. Mr. Cabot, the Committee on Establishing Premiums to be elected, shall establish and report a list of premiums for the ensuing year.

On motion of R. M. Copeland, an amendment was made to the By-Laws, by striking out the XIXth section, and substituting the following:—

“The Committee *elect* shall consist of the Chairmen of Committees on Flowers, Fruits,” &c., the remainder of the section being the same as before. The amendment was read twice, and entered upon the records, to be acted upon at the next stated quarterly meeting in January.

A communication from C. P. Cowles, in relation to the Primate apple, was referred to the Committee on Fruits.

The Treasurer was authorized to procure 50 silver medals.

George Craft, Brookline, Alfred Hersey, Hingham, George S. Ransom, Feltonville, and C. P. Lewis, Dorchester, were elected members.

Adjourned, one month, to Nov. 7th.

November 7th. An adjourned meeting of the Society was held to-day—The President in the chair.

Mr. Parkman, from the Committee appointed to ascertain the cost of certificates, reported that they could be procured for about \$100, and the committee were authorized to have them executed.

A vote was passed, ratifying the doings of the President and Treasurer in the purchase of the Montgomery estate.

On motion of Mr. Vandine, the thanks of the Society were unanimously voted to the Committee, for their assiduous labors in securing and purchasing the Montgomery House estate.

Capt. Austin reported that he had procured the silver medals, and that the director of the mint had informed him that the die was in such a condition as to prevent its further use.

The following members were elected:—Lewis Wheeler, Cambridgeport; M. W. Weld and Jos. P. Glover, Boston; F. Houghton and J. E. Westgate, Somerville; J. Croker and E. D. Miller, Dorchester; David Puffer and F. Allen, West Cambridge; J. W. Balch, West Roxbury.

Adjourned, one month, to December 5th.

Horticultural Operations

FOR DECEMBER.

FRUIT DEPARTMENT.

Up to the present time the autumn has been mild, and highly favorable for all out door work; if advantage has been taken of the weather, a great

deal of work may have been accomplished. As long as the opportunity permits, proceed with trenching and other work calculated to facilitate the operations of the garden next spring. Besides that, what remains of the season should be devoted to manuring fruit trees, earthing up young plants, covering, pruning, &c., &c.

GRAPE VINES in the early-forced houses, will have come on well, under the influence of the good weather, which has permitted of the free admission of air, and the application of but moderate heat. Renew the covering of the border before severe weather, and protect with boards or shutters if not already done. The vines will now be in bloom, and will require attention at this critical season, when the days are short, and often cloudy and dark. Maintain a good temperature as they are setting, and as dry an atmosphere as possible. Vines in the greenhouse and grapery should now be pruned, cleaned, and washed, ready for spring work. Grapes in cold houses should be pruned, if not already done, laid down and well protected for the winter; where there is danger of mice, the best covering is the soil of the border. Hardy grapes should be laid down in the same way and covered with soil. Vines in pots for forcing, may be wintered in a cellar, if there is no other convenient place.

FRUIT TREES, of all kinds, should be protected if possible with a wheelbarrow of manure over the roots, in a slightly conical heap, to throw off heavy rains.

ORCHARD-HOUSE TREES may be wintered in the cellar or in the house, covering the pots with a good bed of dry leaves to keep out frost; let the house remain open in all pleasant mild weather.

STRAWBERRIES, for forcing, should be stored away in deep pits, out of the reach of hard frosts; keep dry, and introduce into the house as they are wanted.

SCIONS may be cut now, if more convenient, than early in the year.

STOCKS, for grafting during the winter, should now be taken up and laid in where they can be protected, so as to use them in February or March.

SECURE SOILS for potting peaches, vines, and other things early in the season. Store in heaps, protected from rains and severe frosts.

FLOWER DEPARTMENT.

A continuation of mild weather has enabled the cultivator to be all ready for winter, though not wished for, yet soon expected. Few autumns are so favorable, and when they occur, the crowd of work so commonly and necessarily delayed till spring, should be relieved by its completion at this season. Replanting flower borders, renovating shrubberies, and securing a better growth by early planting, should be kept up as long as the weather will permit. In small gardens the necessity is not so apparent as in larger places where there is so much to be done to keep them up to their proper character.

PELARGONIUMS will now be prominent objects of attention, if there is anything of a collection, as there should be wherever there is a good greenhouse. Repotting and tying out the plants may now commence.

Tie out every shoot carefully, drawing them down gradually till they touch the rim of the pot. Top vigorous shoots so as to get a thick, compact head. Keep them quite cool and near the glass, with an abundance of air; all that is wanted now is root growth.

AZALEAS will require no other care than attention to watering; do not let them get too dry, but avoid, by all means, too much water. Continue to tie out and prepare specimen plants. Plants wanted for early bloom should be placed in a warm situation, and have a syringing every fine day. Fumigate if the thrip appears.

CINERARIAS should be repotted now, if not already done. Keep them very cool, and on a shelf near the glass. Nip out the centre shoot of vigorous plants, unless wanted for early bloom.

CALCEOLARIAS require the same treatment, but need not be topped.

CAMELLIAS will begin to flower abundantly; discontinue syringing, except occasionally, to clean the foliage, and water carefully. Ill-shaped plants may now be pruned, and they will break strong in the spring.

CYCLAMENS should be removed to a cool shelf in the house, keeping them rather dry for a time.

CHRYSANTHEMUMS, when out of bloom, may be cut down, and placed away in a frame.

JAPAN LILIES may still be potted, keeping them in the house, or in a frame.

NEAPOLITAN VIOLETS in pots may be kept in a frame, covering them well in frosty nights, and airing freely in good weather. When wanted to bloom, remove to a warm sunny aspect in the house.

CALADIUMS AND **BEGONIAS** may be repotted the last of the month, and started into growth in a warm place.

BEDDING PLANTS should be potted off, if not already done.

CACTUSES should be very sparingly watered.

AMARYLLISES should be allowed to dry off, so as to ripen the bulbs.

ORANGE TREES, as they begin to grow, should have more water.

CHINESE PRIMROSES, growing rapidly, may have a shift into larger pots.

ROSES taken up in September or October, may now be well pruned, and placed in the greenhouse.

HEATHS should be kept very cool, and be very carefully watered.

FLOWER GARDEN AND SHRUBBERY.

The last work of the season upon the lawn and walks may now be done, finishing with a good manuring of the borders, and a thorough rolling of the walks and lawn. Sweep up all leaves and carry to the fraining ground.

LILIES, and other bulbs, should have a covering of two or three inches of leaves or straw manure.

CARNATIONS, **DAISIES**, &c., in frames, should be protected with boards or spare sashes.

MANURE SHRUBS and herbaceous plants.

COLD FRAMES should have every attention; airing in good weather, and protecting from hard frosts.

