I have no doubt that the trials were carefully and fairly conducted by Mr. Phippen, but as "Gishurst Compound" contains soap and sulphur in its most active form, it ought not, other things equal, to have "proved a failure." Might I be allowed to ask whether a strong solution of Gishurst was used, and whether the Pines were in this case "immersed?" Very much depends on this last; I speak feelingly, as only last Saturday, on the occasion of giving some 60 of my dwarf fruit trees their yearly winter wash of Gishurst, 8 ounces to the gallon, I found two Peach trees which had been attacked by the brown aphis, and, as I thought, these had an especially effectual wash—stem, branch, spur, and bud. The solution in a wooden pail was applied by means of one of the sort of brushes sold for dusting picture frames. This, with its long bristles, appeared to pay the solution softly but effectually over every part of the tree (the stem and roughnesses of the bark were afterwards worked into by means of a painter's brush. Next day on looking over the trees $\frac{99}{100}$ths of the aphides showed that they had been killed on the spot, but in more than one place was a small group on the under side of a twig which had escaped being touched by the solution, though looking far from well, still alive. With immersion this could not have been. My trees were at rest, otherwise the 8 ounce solution would, I need hardly say, have been fully fourfold too strong for Peach trees. While on this subject may I be allowed to state that for some time past the Gishurst combination has been made at a higher heat than formerly; this is in consequence of some of its users having reported a want of certainty in its application, which could only be accounted for by the supposition that some of the alkali used in its preparation had been left in a free state, in which case it would blacken tender shoots. As latterly made no alkali can be left free, and I believe that any solution which has been ascertained to be the right strength for any description of plants may be relied on to act always the same, on plants in the same state of growth. *George Wilson.*

Fertilisation of British Orchids by Insect Agency.—I am much obliged to Mr. Marshall, of Ely, for his statement that the 15 plants of Fly Orchis (Ophrys muscifera) which does not grow in his neighbourhood, but which flourished in his garden, had not one of their pollen masses removed. The Orchis maculata, on the other hand, which likewise does not grow in the neighbourhood, had all its pollen masses removed. Mr. Marshall is not perhaps aware that different insects haunt different Orchids, and are necessary for their fertilisation. From the wide difference in shape of the flower of Orchis and Ophrys, I should have anticipated that they would be visited and fertilised by different insects. In Listera, for instance, it is chiefly Ichneumonidæ, and sometimes flies, which by day perform the marriage ceremony. In the case of most Orchids it is nocturnal moths. Orchis pyramidalis, however, is visited by Zygæna, and I have examined one of these day-sphinxes with three pair of pollen-masses firmly attached to its proboscis. There can hardly be a doubt that the Butterfly Orchis is visited by different moths from most of the smaller Orchids; and I have recognised its peculiar pollen-masses attached to the sides of the face of certain moths. It is probable that the same kind of moths would visit all the species of true Orchis, which closely resemble each other in structure. Thus the Orchis conopsea, planted in a garden some miles from where any native plant grew, had its pollen masses removed; so this is a parallel case with that of O. maculata given by Mr. Marshall. I have also transplanted the rare Malaxis to a place about two miles from its native bog, and it was immediately visited by some insect, and its pollen-masses were removed. On the other hand, the Epipactis latifolia, growing in my garden and flowering well, had not its pollen-masses removed; though in its own home, several miles distant, the flowers are regularly visited and thus fertilised. We thus see that the seeds of an Orchid might be carried by the wind to some distant place, and there germinate, but that the species would not be perpetuated unless the proper insects inhabited the site. I have now Goodyera repens growing in my garden, and I shall be curious to see next summer whether our southern insects discover or appreciate the nectar of this Highland Orchid. *C. Darwin.*

Effects of the Frost.—The following is a list of the plants at Ossington, near Newark, which appear to be quite killed by the late frost, viz.:—Aucuba; Magnolia grandiflora, on a wall in a sheltered place; Araucarias of all sizes, some 20 and 25 feet high; Pinus insignis, some very large; Phillyrea; Ilex, some 60 and 70 years old; Taxodium, Cryptomeria, Cupressus macrocarpa, Laurustinus, Bay; Arbutus, some 50 years old; Catalpa, large trees; Latifolia Holly; Roses of all kinds; some sorts of Pears; some Apricots on S. wall; Common Laurel and Portugal, killed to the ground. Some of the common Hollies are injured. The Golden Holly will lose all its leaves at least. Pinus nobilis seems injured. Indeed it is almost a clean sweep of all Evergreens, except the varieties of Yew, Hemlock Spruce, Box, Cupressus sinensis, and Wellingtonia, hardy. The thermometer here was 8 degrees below zero; and at Carlton-on-Trent, 3 miles from this place, 15° below zero. *D.*

Œnothera grandiflora (*Lamarck*).—In their reply in your last issue to my inquiry relative to the plant thus named, Messrs. Carter have overlooked the main point at issue, which is not so much the correctness of the name grandiflora as that of identity with the plant hitherto sold for Œ. Jamesii. Messrs. Carter refer to my assumption of the identity of the two, but as your readers can judge, have given no denial to it. *Jacques.*

Kidd's New System of Heating.—Let me warn your readers that this *new* system is merely Polmaise, with all its bad points and none of its good ones. *Expertus.*

The Manetti Rose Stock.—I observe in Mr. Radclyffe's remarks (see p. 72), that with him this Stock requires "five times the manure that a Briar requires." There must be something very peculiar in his soil, for with me it seems to want no manure. I have Manetti Roses that have been growing for these seven years past in a rather tenacious chalky clay, without ever having had a particle of manure, and yet they are most vigorous, making annually shoots from 6 to 8 feet in length. The vigour of this stock is so notorious here that it is generally planted in pieces of ground more or less exhausted. A word from Mr. Radclyffe as to the nature of his soil would be a boon to Rose cultivators. *Thomas Rivers.*

The year 1860 *at Weybridge Heath, Surrey:*—

Wind.		Weather.	Departure from average of last five years. + *above.* — *below.*
Prevailing Winds.	On Days.	Mean height of barometer inches 29.7809	inches .0697—
N	29	Mean height of thermometer:	
N E	69	Highest in the sun, 63°.8028	2°.1309—
E	5	Highest in the shade, 56°.8060	2°.8545—
S E	13	Lowest .. .. 38°.7000	1°.7522—
S	33	Mean temperature .. 47°.7530	2°.309—
S W	102	Rainfall inches 30.3250	inches 5.2943+
W	14	Number of wet days, 57	days 19.8+
N W	33	Number of days on which rain, &c., fell, 234	days 46.6+
Highest Winds.		Driest month, February Wettest ditto, June	
January 22, 23.		Range of barometer,	
February 19, 27, 28.		inches 1.84	inches .018—
March 20, 21, 24, 31.		Range of thermometer, 74°.5	6°.6—
April 18, 19, 20.		Feb. 13. Barometer highest inches 30.48	inches .114—
May 1, 2, 28.		Jan. 24. Barometer lowest inches 28.64	inches .096—
June 2.		July 17. Thermometer highest	
August 24, 30.		In the sun .. .. 91°	10°.8—
Sept. 24, 25.		In the shade .. .. 78°	14°.8—
October 5, 9.		Dec. 28. Thermometer lowest	
December 30.		(in the night of) 4°.5	7°.4—

W. F. Harrison, Bartropps, Weybridge Heath, Jan. 1.

Education of Gardeners.—Being a teacher by profession, and an amateur gardener during all my spare hours when weather is inviting and competitors for prizes are all on the alert, I have perused with much interest the various communications that have appeared in your columns on this subject for the last six months; but I must confess that I cannot give my cordial assent to any plan that has yet been proposed. As Mr. Linager is the first who has laid down a plan, which in your editorial remarks on the 29th ult, you seem to regard with considerable favour, he too has my approbation most, inasmuch as by means of the three examinations proposed, he is bringing the subject into a tangible shape. It is only in detail, then, that I would offer a few suggestions, and more particularly in regard to the 1st or preliminary examination, the subjects of which I consider exceedingly indefinite and meagre, and the time of passing all the three. The first, then, I would propose should be passed at or before 17 years of age, or during the first year of the tyro's apprenticeship; the second at or before 21, and the third at or before 25. This would allow the student three or four years between each examination to prepare himself for his next ordeal. To the subjects of examination I would add, that the candidates be examined in writing to dictation; this will prove both their spelling and their grammatical knowledge so far as relates to proper punctuation, the division of a word at the end of a line at the right letter, and the proper use of the capitals. Also that each, shut in a room alone for an hour, be requested to write a letter on any simple subject with which he may be familiar, such as a description of the weather, the progress of the crops, and the employment of the gardener for the last month. How often does it happen that my lord and lady are in London or on the Continent, and the gardener is requested to let them know how things are getting on at home; and how satisfactory to his noble employers, and pleasurable to himself, that he is able to give a succinct account in plain writing, correct spelling, and well arranged grammatical sentences—an accomplishment little inferior to his ability to use his pruning knife and rake. Likewise that the examination be very searching on the derivation and meaning of words. *E. g.* How can a young man who knows nothing either of the derivation or meaning of such terms as are used in the very text be expected in one year to pass an examination on practical botany. What do Physiology, Pomology and hundreds of other botanical terms mean: Heliotrope, Helianthus, Polyanthus, longifolia, latifolia, serratifolia, Trefoil, &c. These names or nomenclatures form such an insuperable barrier at the very commencement to most young men, that they get perfectly bewildered and give up the subject altogether in despair, and as soon as the merry bell tolls the joyful hour of release from labour, hurry off to the village green in quest of sport, as one of your correspondents affirmed, more congenial to their tempers; and no wonder. Young men have never had a fair opportunity of getting initiated into the subject; they may prosecute their studies for a time, but still no more light dawning, and wandering on in the mazes of uncertainty, they at last lose all relish for their profession, and abandon it altogether in disgust; hence the number that become policemen and railway porters. How, then, are these obstacles to be vanquished? I answer, by early tuition, and not by learning the Latin and Greek languages, against which many of your contributors protest, on account of the time and expense of a classical education, but by the following method. In all our Scottish school books we have Latin and Greek roots with English derivatives. These I make my two highest classes commit as accurately to heart as the Multiplication Table, beginning only with four words once a day, till we get through them, return to the beginning and get double the number; and now follows the explanation of these terms Physiology, Pomology. Physis (Greek)=nature, and Logos (Greek)=a word, a discourse, hence Physiology = the science which treats of the nature of animals and plants. Pomum (Latin) = an Apple, hence Pomology = a discourse about Apples. Again, folium=a leaf, longus =long, latus=broad, serra=a saw, tres, tria=three; hence, longifolia=long leaved; latifolia=broad leaved; serratifolia=having leaves toothed like a saw; Trefoil =a plant with three leaves, the Clover. How useful such an exercise to every man who has not the time or means of acquiring a classical education must be apparent, but to no man more so than to the gardener; indeed to him I consider it altogether indispensable. I would also include in the preliminary examination, geography, so far as the candidates could point out on a map of the world every country, mountain, river, &c., and tell for what the more remarkable are famous; as China, for the Tea plant; Mocha, for Coffee. In land surveying, too, to be able to lay down a plan of the ground measured on two or three different scales. All this, with perhaps the exception of the letter writing, which may be postponed till the examination for honours, I am of opinion clearly belongs to scholastic education, and may be acquired by any boy of moderate abilities with diligent application at the age of 14 or 15 years. The deficiency in the case referred to in your Paper of the "well educated young man, who, when requested to write fifty, put down 05," is attributable most assuredly, not to the two head gardeners under whom he served, but to his schoolmaster, if ever he had one. The expense here for reading=2*s.*, or 2*s.* 6*d.*; reading and writing=3*s.*; preceding and arithmetic=3*s.* 6*d.*; all the preceding with grammar, geography, land surveying, practical mathematics=6*s.*, or 7*s.* 6*d.* per quarter. When the boys have to be boarded, however, the cost is very much increased. *D. Dods, Makerston, Kelso, Jan.* 12.

Wine Cellar Fungi.—In your leading article, Dec. 24, 1860, you intimate the propriety of using metallic salts to prevent Fungi in wine cellars. I will relate a case bearing on this subject. Eight years ago I had stacked away in my cellar some wine, using sawdust from Elm and Fir timber; within two years I found the corks eaten by weevils, the wine having escaped from several of the bottles; after recorking and removing perhaps half of the sawdust, some fresh was used made from Elm and Beech that had been injected with sulphur of copper to preserve it, and I have carefully examined this bin of wine and others that I have continued to use it in, and cannot find the slightest trace of weevil, fungus or decay. Another domestic use of sawdust charged with sulphate of copper is for keeping salted meats; bacon or hams may be kept for years free from flies, hoppers, and other insects. I have found it useful for keeping Potatoes, Parsnips, Carrots, and roots in. *Anon.*

Radishes.—I am obliged to "B." for his hint. If "B." will read "Early *and* Turnip Radishes" the error will disappear. For the sake of variety, and also to insure a good succession of fresh crisp radishes, I like to sow three or four varieties at the same time. While on the subject I may remark that summer crops should be sown on a north aspect, and the richer the ground the better. Birds are very partial to Radish seed, and some people suffer much from their ravages unless they protect the bed with nets; if instead of raking the seed in, which is the usual practice, they will, after it is sown, fork the ground over an inch or two deep, leaving it rough, they will find no inconvenience from birds. If asked for the philosophy of this operation I could not give it, but the fact, from many years' experience, I can vouch for. "B." asks for a separate publication of the "Remembrancer." It is not improbable that next autumn I may give it a more exact and detailed character, and publish it in a separate form, to which end I shall be glad of remarks on any vegetables that may have withstood the late intense frost, especially Broccoli and the Brassica tribe generally, which may be addressed to me at the office of the *Gardeners' Chronicle. P. A. W.*

Societies.

BOTANICAL OF CANADA.—This Society met on the 11th inst., the Rev. Principal Leitch, D.D., in the chair. Notwithstanding the coldness of the night (the temperature being 20° below zero) there was a large attendance of Fellows and subscribers. The committee