In this issue

President's Message .......................... 1
An Interview with Phil & Steve .... 2
Primrose Path Begins Calling to Gardener - F. Bellis .............. 16
How to Plant and Feed Primroses - Florence Bellis .... 17
Florists Societies and Feasts
After 1750 - Part I - Ruth Duthie ..................... 20

The 1986 APS National Primrose Show will be April 12th & 13th. The show will be held at the Totem Lake Mall in Kirkland, Washington, hosted by the newest APS Chapter, the Eastside Primrose Chapter of Kirkland. Entries will be accepted Friday evening, April 11th, and early Saturday morning, April 12th.

The Annual Meeting and Banquet will be held Saturday, April 12th beginning at 7:00 p.m. at the Madison House at Totem Lake. For further information about the banquet and for reservations contact: Lena Smith, 112 Kennedy Dr., Duvall, WA 98019.

1986 Washington State Chapter Show and Sale will be Saturday April 19th at the Center for Urban Horticulture, 3501 N.E. 41st St., Seattle, WA. This will be the first time for a one day only show for this chapter. Contact: Show Chairman, Larry Bailey, 1570 9th Ave., N., Edmonds, WA 98020.

1986 Tacoma Chapter Show & Sale will be Saturday & Sunday April 26th & 27th at the Tacoma Mall, WA. Contact: Show Chairmen: Delores and Jim Krob, 2027 Bobb Ct. SE, Olympia, WA 98503.
An Interview
With Phil and Steve
by Richard L. Critz, Editor

Phil Pearson and Steve Doonan, two of the most personable young plantmen you are ever likely to meet, are cousins, and joint owners of the Grand Ridge Nurseries at Issaquah, Washington. The Nurseries, specializing in rare and choice rock garden plants lies about 15 miles due east of Seattle, just beyond the point where the Cascades begin their steep ascent from the Coastal Plain. The plants at Grand Ridge are something out of this world. Truly. To give you an idea of the quality of their splendid holdings, in 1984 Steve and Phil absorbed the entire collection from Bob Putnam's wonderful Plant Farm. Some addition! But fine as their plants are, the really impressive thing is the way these boys grow them. In the excerpts from our interview which follow you will note that one of them often finished a sentence begun by the other. And then, the whole thing took place with the most bewildering rapidity! So climb on the carousel with us and let's have a whirl!

Richard: I understand you guys grow a lot of your stuff without soil. Is that true? Tell me about it.

Phil: Yes and no, Richard. We don't grow everything soilless. But most of your scree plants, high mountain plants that grow in cracks in the rocks, or on steep vertical planes where the water never stagnates, but drains off in a hurry—that's the kind of material we grow in the soilless quick-draining mediums.

Steve: Our experience began with Saxifrages in 1969. You know, a lot of people, especially in England, use those light organic mixes, like the John Innes composts. And I believe Bob Putnam used them at his nursery, for scree plants like sax's; but of course he kept them in an alpine house where he could control the amount of water that got to the plants. When we first bought plants from Bob during the early 70s and brought them here, we put them right out in the rain, and they soon got too wet. The soil would turn sour on us, and the plants would die. Phil had been reading in some of those English books put out by the Alpine Garden Society about sharp drainage. These English rock gardeners were always talking about the particle size of their ingredients, about "sharp sand"—

R: Sure, I remember that from Roy Elliott's book. He talked about sharp sand.

S: - as opposed to the rounded particles of water-worn sand. We have glacial deposits here, and the sand particles are all smooth and round.

R: So do we in Pennsylvania.

P: You always hear "Good sand for good drainage" and I guess it's true that if you had free sand that was a foot deep, or 2 feet, you would establish a water column and you could probably grow scree plants, plants needing fast drainage, right in it. But when you put that plant in sand in a pot, things become quite different. A factor we call porosity comes into play, and porosity is very critical to success in keeping high mountain plants alive and healthy. Porosity has to do with the amount of air that a given soil, wet or dry, contains. If you take a potful of that glacial, round-grained sand, wet it, and then measure the porosity (there are ways to do this) you will find that it holds only about 7% air. And when it comes to plants, that's not very much.

S: It's just not enough! The water fills up almost all the spaces between the sand grains, and it takes nearly half an hour for the porosity to reach 7%. The water molds that thrive in a saturated kind of situation will begin to attack the roots.

P: And then, after the sand passes the 7% point it goes right on losing moisture until it dries. You are apt to get this constant fluctuation back and forth from soggy wet to not enough moisture.

R: You're saying that sand, by itself, does not make too good a growing medium.

S: Generally, of course, that's true. But again, we have to qualify it. For instance, you can modify sand a good deal by changing the particle size. And then, there's the question of the "fines." All sand contains some silt and clay particles—some more, some less. We call the amount of these fine particles in the sand 'particle size distribution.' Now particle size distribution can modify the sand's porosity drastically.

P: The Japanese bonsai experts screen and wash their soil until it's mostly particles 1/8 of larger in size—they can't work with fine particles in their mixes at all. You were talking earlier about your success with western plants in pure sand beds, things like phlox and penstemons. Some ground peat mixed in with your sand should enhance your success markedly, and even extend it to more difficult subjects. Pea gravel, of course, has a larger particle size than pure sand, and...
the distribution is quite different from that of pure 'clean' sand.

R: Do I hear you saying that the idea behind sharp sand is maybe that it is in larger grains?

S: Oh no. Sharpness has to do with the angular shape of the individual grains, as opposed to smooth rounded ones. A sharp particle will not trap nearly as much water as a spherical one and I'll tell why.

When it comes to holding water, water has two properties - adhesion and cohesion. Adhesion is the attraction and clinging together that exists between water and soil particles. Cohesion is the natural tendency of water to cling to itself and form spherical water drops. If you take round sand particles and wet them, the sand acts like a nucleus for the water - both properties work together and reinforce each other. If the sand particles are touching each other (and they always are) the water simply fills every space between, and all air is driven out. The sensitive dividing tissue at the tips of plant roots must have oxygen in order to divide. High mountain plants, including the Alpine Primulas, must have abundant and constant oxygen in order to remain healthy - in fact, at least 20% porosity or air space in the mixes at all time.

R: You've made that wonderfully clear, Steve, but where can we glacial people get sand like that?

P: Remember, Rich, we have the problem too. If you can only get the fine rounded sand, then you have to go to the pea gravel, or even a larger size. In fact, here at Grand Ridge we buy pea gravel that has had the larger sizes removed, and we screen it again, to get out the fines. And we use the 'in betweens'. Our 'sand' has particles that vary from 1/16" to pieces about the size of pencil erasers. This is quite different from most people's idea of sand. It's really small pebbles.

R: Could you buy turkey grit?

P: Nah. We mix other things with it of course. The #2 and coarser grades of granite grit have a porosity of about 34%. Peat moss runs a porosity of 18% or so, and we use that. Pumice is a good coarse material with no organic material in it, and in places where that can't be had there's often a thing called terralite, which is a calcined clay. This is a broken up fired clay and it's full of fine dust-like particles that have to be screened out. I think you get the idea. We want a mix that is composed of lots of small lumps, with lots of air space. We combine our ingredients carefully to arrive at just the percentage of porosity we think the plant needs.

R: Do you use different mixes for different kinds of plants, or does everything get the same thing?

S: We use different mixes - basically two - the first and most important being what we call our saxifrage mix. We have grown high alpine plants successfully out-of-doors in this for years, right in the rain and freezing. The saxifrage mix is composed of 4 parts #2 turkey grit (granite, of course), 4 parts of our coarse clean sand, and 1 part peat moss. Say you mixed in gallons - 4, 4, and 1 - you'd have 9 gallons of mix. To this add about 1 cup of transplanter (which is a fertilizer that has trace elements in it), 1 cup of 18-18-18 (the nine-months slow release form of this), and a cup or two of dolomite. A lot of these plants like lime and we use the powdered rock. You mix all that up good and your plants will really take off. At least ours do.

R: Of course you have to fertilize when you plant like that?

S: Again, yes and no. A lot of plants around here we just don't get around to feeding. And the plants survive in this mix - they bloom - but I've found that if we do slip them a liquid food in the watering, they do better for it. They will definitely benefit from an occasional feeding - let's put it that way. Once or twice, three times, a season.

R: What kind of fertilizer do you use? Anything in particular?

P: Well, we like liquid fertilizers - an 0-10-10 is just about right because with that we get nice compact growth, good leaf and flower formation, and yet, they don't turn into big cabbage plants. We have tried 20-20-20, but prefer the 0-10-10, and even that we dilute to about half strength.

S: Another thing. Rich. We steer away from organic fertilizers with these soilless cultures except perhaps for the Ericaceous material. For these plants, we use a peaty sawdust humus anyway, and more organic fertilizers are appropriate. I would like to emphasize that we apply our fertilizers at about half strength, diluted, and that's one of the keys to our system.

R: A point well worth noting. But what about the mix for your ericaceous plants?

P: Well, okay. We use half coarse sand, and half peat moss - the traditional mix.
R: Do you ever use sawdust?

S: We do. In fact, we are using a lot of different things in our ericaceous mixes right now. For instance, we are growing shortias in pure sawdust. Not your usual sawdust, but a coarse softwood sawdust cut on a headsaw.

P: A circular saw with a 5/16” kert.

R: Do shortias appreciate meticulous care like that?

P: Do they ever! Hardwoods might be OK, but with these woods you have entirely different fungal growths, and they can be injurious. We prefer a fresh cut, coarse medium for growing this plant material.

S: Of course we feed the plants, too, but not too much.

R: Really? You fertilize even in sawdust? And do you have any particular problem with nitrogen?

S: We've never had the problem of nitrogen lock-up. We never apply extra nitrogen, although we know a number of people who have done that.

R: This is interesting, because I've been cautioned over and over to put down extra nitrogen on the soil before spreading sawdust, and then, not to mix the two together. But you have dispensed with that altogether, and you do use sawdust.

S: We have, and we do. We use tons of sawdust around here. I think you will see a lot of root growth if you use sawdust alone (as they do at the Rhododendron Species Foundation), but maybe not much top growth unless you start to feed.

P: We have one grower in this area who uses 50% sawdust, 50% peat to grow his rhododendrons. He gets marvelous, tremendous root systems with very little tops and this enables him to raise a lot of plants in a very small area. Of course, when you purchase a plant, put it in your soil, and start to feed – you already have the root mass, and right away the tops just bloom out because you have those roots to push it. It's the perfect top-to-bottom balance for transplants. The only trick is to feed immediately and heavily after transplanting.

R: Do you use the bark dust one sees so much of in this area?

P: We don't, but it's just because of the slivers and such. Otherwise it's a good growing medium. There are people here who raise the very difficult Kalmia polifolia in pure bark. And I know a number of growers who just swear by it, and raise all kinds of plants in the bark alone.

R: Just the bark, alone?

P: Yes, it seems that you just don't get a lot of the water mold problems that come with so many organic materials. It's not perfect, of course. If you use it too heavily for mulch there can be water penetration problems. We have seen places, too, where the soil seems to be soured by the bark. But we have steered away from it mainly because it's just full of very fine bark slivers that can create a lot of irritation.

R: I presume this material would be good only for acid-loving, say ericaceous, plants. Not for the rock plants at all.

S: That's correct.

R: Down at the Rhododendron Species Foundation I'm told they just put a foot of sawdust over everything, and that they grow everything right in the sawdust, even the primroses.

S: Some of the primroses will like it, others will just hate it, and you can never tell which. For instance, we have this delightful little Primula reinii, a tiny plant that grows on deep mossy walls in Japan with lots of moisture. Mindful of this home turf we put it in a humusy leafmold, and the roots, which tend to lie right on the surface, simply rotted off. But as soon as I put on in our 4-4-1 saxonfrag mix the roots loved it, the plant simply exploded into growth.

P: We had some Japanese friends here who took a look and just couldn't believe that it was growing like that. In fact, that it was growing for us at all. But then, they hadn't tried that kind of mix.

S: The other primula I tried first in humusy soil was the rare and utterly recalcitrant Primula x steinii. I managed to fine one at a plant sale, and it was sulking around with three spindly little offsets. I tried feeding it, and the roots, which lay right along the surface, like P. reinii, dropped right off. How it managed to hang on at all I don't know, and of course there was no question of bloom. So Phil finally got me to take a couple of offsets and pot them in the saxifrage mix. The thing just went crazy and we've had it in abundance ever since.

P: They're vigorous, and cover themselves with flowers. The Primula marginata 'Drake's Form' down in the frames, which you admired so much, were grown by Bob Putnam in a heavier soil in his alpine house where the water was strictly controlled. As soon as we got them we washed all the dirt off right away and repotted in our 4-4-1 mix, and they've just become very, very vigorous. It's amazing how all alpine primulas, and a lot of others beside, love this mix. I think it's the air in the soil they're responding to. They have got to have the air. If they don't have that, they can't get the water and the food. The plant must have air at the roots in order to take up food and water.

S: You have to remember, though, that our plants are grown out-of-doors, in containers, in an area that gets a lot of rainfall. As you come east from the Puget Sound Basin we are in the very first foothills of the Cascades. The lift dumps well over 100 inches of rain here a year, more than three times the average rainfall of Seattle, which is known as a real rainy area.

P: Our quick-draining soil is great protection from so much water, especially
in the hot muggy weather. Our rain is downright warm, but it percolates right through, and we don't have all the problems with molds and rot.

S: But now, the saxifrage mix does not have much field capacity.

R: Much what?

S: Field capacity - available water for the plant. The spread, between the point at which the soil is so dry that plants will wilt in it, to the point where it is so saturated that it can absorb no more, defines the field capacity.

P: So field capacity is an index of the amount of water the soil can hold. Peat moss has a tremendous spread in water holding capacity, and so, a tremendous field capacity. In contrast, grit has a fairly low field capacity. Our plants flourish despite the high rainfall because the quick-draining soil we use for potting has a low field capacity. Besides the potting mix itself we always put at least a half inch or more of course chippings on top. We use 3/8" limestone chippings or (sometimes) pea gravel. No fines.

R: Do you use decorative pot mulches? So you can choose the color? Is that acceptable?

S: Oh yes, that's one of the ideas - to contrast the pot and plant colors with the mulch.

P: The one problem you might have with this system is in deciding when to water, but one develops a feel for that real fast. You might have to dig down with a finger for awhile with these soilless mixes, but then, it's difficult to overwater.

S: We've hit on another real interesting way to increase our field capacity. Some plants need more moisture than we can easily supply, but they like the coarse soil. We lodge a ball of peat moss down on one side of the pot, and the roots tap that ball. Or, we take a styrofoam cup, maybe cut it off some, and set that on the bottom of the pot. We fill it tight with peat moss, which is contained and can't contaminate the lower soil area, but provides a little moisture reservoir.

P: Another thing we discovered quite by accident. Bob Putnam used sand taken out of a local sand pit, and typically, there were big chunks of clay right in the sand. Occasionally one of these lumps would get potted right in with a plant and when we dumped out to repot, here were these chunks with just a mass of roots encircling them. The big woody roots didn't penetrate the clay, but they seemed drawn to them like a magnet and they completely covered the thing. But the tips - the new dividing tissue - where the moisture is actually absorbed, just the tips, did duck into the clay ball. When Steve brought this thing to me I recalled some of the writings of the Japanese bonsai growers about using clay in air layering. They cover the wounded stem with clay, and then put their sphagnum moss around. The cutting strikes roots right into the clay, which is retained when the new plant is cut free and put into the medium for growing on. That clay prevents the cambium layer and the new roots from drying out.

S: I've had this for a thought (we haven't tried it yet). You could angle a thin layer of clay - almost like a slice of bread - at the bottom of your pot. Then add a thicker layer of a really gritty mix, another slice of clay bread, then more mix, building it up like a condenser of these clay pads. The clay would stay moist, providing a moisture reserve, while the roots went down through layer after layer spreading out horizontally at each. This whole thing would dry up more slowly. The Japanese do such interesting things with layers, and I'm going to experiment more, too.

P: That idea might work even better vertically. If I recall, the Japanese, in raising Cypripediums, take a crumbly moist clay and form it into plates which they cover front and back with pine needles. These are packed upright in the pot so that there is vertical drainage through the clay along the path of the needles. And the plants love it.

Another thought - the Japanese just do not have real grit available for their bonsai soils, so they take a fairly plastic, moist clay and push it through a screen so that it comes out like spaghetti. They let this air-dry, break it up into pebbles, screen out all the fines, and incorporate the little clay pebbles they have made into their mixes. Since they repot every year or two these pebbles retain their shape, even unfired.

R: Clay gravel, so to speak. Sounds just like what Bob Putnam did by accident.

S: Exactly. These clay pebbles never dry out. They maintain their integrity.

P: All this speculation is fun, but I want to go back to the stone mulch for a minute. You've heard about the dust mulches the farmers in Iowa put on their corn. They water very heavily, and then next day they break up the surface to interrupt the capillary flow. Our stone mulch breaks up the evaporation from the soil surface, just like a dust mulch, so that the mix doesn't dry out so fast. Then too, if the mulch is thick enough, you can eliminate unsightly mosses and liverworts, and - you keep the crown quite dry.

S: Yes, the mulch seems to do that quite well. There are lots of advantages to a stone mulch. When you use a good half inch or more on top, the soil underneath is easy to rewet. And when you run your hose or sprinkler, it doesn't wash the soil mix at all. We really can't say too much in favor of a good stone mulch.

R: You've been talking about pot culture for alpine plants. Can you adapt this culture to the open ground?

S: You bet. We have a friend, Betty Lowry, over in Renton who used a gritty mix right in her garden and she has amaz-
ingly successful results with the difficult Saxifrages and alpine Primulas. The British rock planters who visit her place, are just amazed to find the plants they grow in frames or greenhouses flourishing right out in the weather. They have a maritime climate like ours, but they tend to use heavier, humusy mixes, and the plants have more tendency to rot.

P: If you put the plants out in early spring or very early fall into a quick-draining bed they develop massive root systems that have much less chance of drying out.

R: How thick would you make the quick-drain mix outside?

P: Betty has excavated her beds down to 3 feet in some cases, and filled them with pea gravel. But you could just as effectively build up mounds completely above the surface.

S: One thing you definitely have to watch, though. Our good friend Roy Davidson built a scree garden at his home in Bellevue, a spectacular thing, but in a comparatively few years the earthworms and moles had brought the underlying subsoil right up into the scree soil. So much so, that in a few years all the work he had gone to was undone. Earthworms can move up to 50 tons of soil per acre per year in some areas, you know. Charles Darwin documented that in the 1850s. So a number of people we know have laid down what the nurserymen call ground cloth first, held it down with rocks and then distributed the gritty mix amongst the rocks, building up a rock garden for alpines in this way. The ground cloth really bars the earthworms, and the soil will remain stable for many years.

P: Even so, the roots of your plants and the decaying plant bodies do slowly add humus to the soil, altering it gradually towards a heavier soil. You have to watch that.

S: We have been experimenting with this outdoor idea ourselves, and we place not more than 4 or 5 inches of our 4-4-1 over a ground cloth. The young plants establish themselves in the quick-draining soil (you have to site the bed so excess water can drain off completely) and send roots right down to the ground cloth, which they cannot penetrate. But tiny little hair roots from these roots do go through the cloth into the heavier soil which, because of its tremendous field capacity, is holding more moisture.

P: The whole thing is meant to simulate the scree. So that even if and when the top mulch dries out – bone dry – the root area down under is always wet.

R: Fascinating! Of course you couldn’t use the old familiar black plastic in this way. Is this ground cloth hard to get?

S: No, it’s quite common. Most nurserymen know about it. It’s a tough woven material which we first used as an underlay in our paths to keep them dry and weed free. Chemicals don’t bother it; neither does the sun. In fact, a similar plastic is often used for shade cloth and material which we first used as an underlay in our paths to keep them dry and weed free. Chemicals don’t bother it; neither does the sun. In fact, a similar plastic is often used for shade cloth and will remain functional for years right out in the weather.

P: Under the soil the stuff will last forever.

I’d like to say a little more about field capacity before we get too far away from that. One of the big criticisms we hear of our system, the thing that happens to people who try to use it, is that the soil dries out so fast you can’t keep the plants alive. This is not necessary; everyone has the tools to manufacture a mix that precisely fits their specific conditions. Our Saxifrage mix is not a panacea that will fit all conditions everywhere. If you need to increase or decrease the field capacity you can use more or less peat moss. If you want more porosity, or more air space, you use less of the finer particle-size sand. Some people incorporate a small quantity of loam and that may be just the ticket for them. You have to experiment with the basic formula, adapt it for you and your plants in your climate.

S: Right! We use another mix, which we call our Erigeron mix, that is much like the Saxifrage soil, but incorporates pumice instead of peat (we have so much rainfall here). Pumice adds a lot of field capacity to the mix, but absolutely no organic material. Polyanthus Primroses planted in 50-50 pumice and peat (or even pumice and loam) develop tremendous and effective root systems. Wet, cold, heavy soil is the enemy.

P: Perlite is a perfectly acceptable substitute for the pumice. Not quite the same, but effective, especially in the coarser grades. You have to keep remembering that particle size has a lot to do with water-holding capacity.

S: Vermiculite is not too good, at least not for us. The expanded mica is actually clay-like in its structure, and it will break down into real clay fairly quickly, with unpredictable and uncontrollable increase in water-holding capacity.

P: Now if you use vermiculite in a covered situation, like a greenhouse, if you monitor your water carefully, and repot every year or two, you can use it safely.

R: Phil, tell me how you got so heavily into the making of pots. Your containers are a cut above any others I have seen for plants.

P: Well, thank you Richard.

I’ve always greatly admire the British container-grown plants. But many of the British containers, especially the older ones, were hand thrown, low-fired, earthenware pots – not frost proof. We wanted to grow in containers the same way they do, but without the flaws and headaches of earthenware, so I started to make my own. I picked up the thick rim of the British pots – that helped to hold the shape at every stage of the pro-

A row of alpines sunning in Phil’s earthenware pots
and all that.

to repot them and move them around, They take more water, too.

thing with show Auriculas?

to ask you two - do you people do any-

in it if you take all the precautions we have been mentioning.

S: But they do like the mix, and thrive in it if you take all the precautions we have been mentioning.

R: Do they behave more like the clay or the plastic pots?

P: Oh the plastic, at least insofar as water-holding characteristics are concerned. You don't ever need to plunge them in sand beds as the English do. Remember though, some plants may prefer the greater air exchange that porous pots provide - the idea is to satisfy the plant's needs.

R: Speaking of clay or plastic, which do you guys prefer?

S: We're all for plastic. The 4-4-1 soil is not too good in a porous pot. You have such a tremendous evaporation rate there unless, of course, you coat the clay pots with some kind of sealer. But that defeats the purpose. I'd say these soils are definitely better in plastic.

R: Or a pot like your own.

Not to leave this subject too abruptly, but there are still so many things I want to ask you two - do you people do anything with show Auriculas?

S: Not too much. Show Auriculas are much grosser feeders than the high alpines - and they can only be kept alive in this gritty mix if we are very attentive. They take more water, too.

P: I think by their nature that show auriculas take more fussing around with than we are willing to put out. You have to repot them and move them around, and all that.

S: But they do like the mix, and thrive in it if you take all the precautions we have been mentioning.

R: So much for show Auriculas - at least at Grand Ridge. I notice that your plants are almost entirely out-of-doors. Only a few things under overhead cover - obviously things in bloom to protect the flowers. Mind sharing your thoughts on alpine houses?

S: The English Journals indicate that many of the high alpines are only possible when grown inside, but I suspect that is a result of their traditional cultural practices. In this country where only a few areas enjoy the moist maritime climate, the big problem with alpine house growing is apt to be dryness. People lose their plants by keeping them too dry. They just shrivel up and die.

This problem can only be aggravated by our quick-draining mixes. If you are planting inside the choice is either to use a heavier mix, or to stone mulch heavily, and water, water, water. It really is another whole ball game, and you have to learn it from scratch.

P: Those Primroses you see on the table down there are container grown and kept largely 'outdoors'. They have been sitting in those same pots for quite a few years now. I just don't get around to transplanting, or repotting them, but they look quite healthy under the circumstances. (Ed. note: They looked gorgeous!) What we use is an injector system, a system in which we can put a liquid food right in with the water. So we do quite well using our mixes in an alpine house - but it takes close attention and constant vigilance to bring it off. You've got to feed.

R: I'll have to do more of that. I don't feed my plants very much.

S: You really should, Richard, you'll get more and better bloom, but the food must be balanced. You don't want too much nitrogen - enough to keep things moving along - but more phosphorus and potassium. These all have to be balanced out with the proper amount of light and the proper amount of moisture.

An alpine house shelter overflowing with potted treasures

S: Our P. allionii's do the very best in a pumice mix. They aren't so happy in our 4-4-1 saxifrage mix. Some pumice is dolomitic in that it has a high calcium magnesium content. Dolomitic plants (especially Campanula ranieri) prefer this pumice to low magnesium types.

P: They might do well in perlite - just perlite - too. We haven't tried that. It might be a very worthwhile experiment, but they're really fine in pumice mixes.

S: Sometimes the simplest things can be the best. Who knows, maybe the pumice interacts with the surface tension of the water in a way that keeps down the fungi - we just don't know.

P: You have to screen out the fines, keep the particle size just right - the distribution.

R: What about pH?

P: It seems like maybe pH is more crit-
ical in a poorly drained situation. We both tend to feel that soil structure is more significant than pH. If you have a good airy, well-drained structure, you just about get away with murder as far as pH is concerned.

S: There are exceptions, of course, but darned few. Aquilegia jonesii, for instance, seems to like to be watered with a limey water. But even that may not be the pH. It might be calcium, or magnesium, or even something else.

P: We picked up that trick with A. jonesii from a grower in the A.R.G.S., but a lot of this stuff is intuitive—it's a feeling, like "Hey, this doesn't look right." There's seldom any hard scientific evidence, but you can just sense that a plant is going backwards.

S: When that happens we usually figure we have three days to save it. If the situation can't be reversed in that time chances are the plant is going to die.

P: You can do a lot of things in three days. Sometimes just changing the pot and/or the soil is all it takes. Or you can change the mix itself. We've found that we can tell within a few hours—a half day or so—if the plant is going to continue its decline, or if it will perk up. Once you start doing the right thing, you can see it right away quick.

R: What do you do when you notice this "decline?" I'm afraid I'd panic under that kind responsibility.

S: We don't. It doesn't help. You have to have a certain amount of curiosity. You can tell how the plant is feeling. It's like a person who's sick—they sort of lose their lustre.

P: And you've got to do something—take some kind of rational action to save the plant once it begins to look like there's a problem. You have 3 days.

S: So I stop feeling sorry for the plant (or myself) and dump it out of its pot to take a look. I may be an insect problem in the roots; it may have to do with soil drainage—there are all kinds of possibilities. We've seen situations where worms have actually blocked the drainage holes with their clay secretions, and the plants have died because they couldn't drain. They were virtually sitting in water.

P: If you pick up the pot and take a look at it, you can spot and solve problems like that. But first of all you have to recognize that there is a problem. And that's where the men are separated from the boys.

R: It all sounds discouragingly complicated to me.

P: It is complicated, but it's all based on what is going on in the plants. I think a lot of people let their feelings or emotions get mixed up in this—their convictions, let's say—but the plants couldn't care less. They need what they need. Period.

S: For example, Jack Poff, who worked for Mrs. Berry down in Portland, had this Primula suffrutescens that everyone was wondering how to grow. He grew his in a big pot; it had hundreds of flowers creeping down the sides and all over—it was absolutely gorgeous. Well, it turns out he was using an iron-rich volcanic cinder soil. Oregon has these super rich iron soils and he had used it quite successfully. It was just the ticket for this difficult plant.

P: We've had that experience too—collected wild flowers, 'starts' or cuttings, from the mountains, brought them in to our nursery, and potted them in our lean mixes. And they have done much better here than they ever did in the mountains. It was a combination of pot, food, lean mix, the environment, the growing season. The thing is complicated, but that's the game we play. Growing mountain plants at low elevations is an exciting problem-solving exercise. This discussion is about "tools" that can be used to cultivate alpines (and other plants) successfully.

S: Yes it is. There are just lots of ideas floating around that can by synthesized and used. I think that actually we are on the verge of a whole new way of gardening. People in different places are growing in quite different ways, but we are all communicating with each other about it, and it's going to make a new day.
Many Legends Cling Around Primroses

by Florence Bellis

GARDENS

(Here are the second and third of the remarkable articles by Florence Bellis whose publications in the Oregon Journal led directly to the formation of the American Primula Society. It is hard today to visualize the excitement which the appearance of these articles generated, but as we approach our 50th anniversary it is well to review these foundation materials upon which our organization rests.)

Before the time of Shakespeare, the term "primrose" was applied to any plant blooming early in the spring, whether daisy, privet or calendula, all were bunched indiscriminately together. The word "primrose" had its beginning in the Italian phrase flor di prima vera, the first spring flower, but it trod an intricate path over the field of nomenclature before it could arrive definitely as such.

As confusing as it was to have so many flowers carrying the same name, and the name itself going through a series of changes, a still earlier era in English literature used the word to indicate excellence for there is still enough left to puzzle over. For instance, the Primrose, Oxlip and Cowslip with their several botanical names apiece and their readiness to produce innumerable intermediate types through hybridization, lead one on through a merry maze which would be useless to try to unravel.

To Clarify Differences

The following brief sketch is meant to clarify the more outstanding similarities and differences of the three main types.

The flowers of both the oxiip and the cowslip are carried in a cluster at the top of a stalk, those of the cowslip being the smaller and buff yellow with red spots at the base instead of the plain pale yellow of the oxiip.

The flower cluster of the cowslip is drooping and the blossoms funnel-shaped while that of the oxiip is one-sided and the individual flowers are wide-eyed. The stalk of the cowslip is the shorter of the two.

The true oxiip is found only in the Midlands of England and takes it common name of Bardfield Oxiip from that district in Essex where it is found in greatest profusion. The cowslip is more generally distributed throughout the British Isles and over continental Europe and prefers open and sunny meadows to the more shaded and woody habitat of the oxiip and primrose.

The most apparent difference between the two types mentioned above and the true primrose is that the flowers of the latter are carried singly on stems springing directly from the crown of the plant.

Like the oxiip, the common English primrose, so beloved by its people, is pale yellow. The white form is indigenous to the Balearic Islands and the original red, and its varying shades, is a native of the southeastern part of the continent ranging from Istanbul down the Levantine coast.

Associated With Keys

Both the cowslip and the primrose are associated with keys and are called Our Lady's Keys in England and Key-flower in Germany.

There are many pet names for them with accompanying legendary reasons, but the quaintest comes out of Germany in connection with the name-phrase, Keys of Heaven.

It has to do with the business of getting into that much-desired place, if not with St. Peter's approval, then without it. For while the good saint was busy at the great gate, so the story goes, someone was trying to sneak in the back door and upon finding him out, he became so agitated that he fumbled his keys and dropped them. And where they fell there appeared the first cowslip in full bloom.

Being so old, it is only natural that this section of the primrose family should have gathered in its wake a long chain of names and legends as they bloomed across the centuries. And, too, that they should have been put to so many and varied uses.

Medicinally, they have no possible value, but a few centuries back their accredited prophylactic qualities were prodigious, curing everything from sneezing jocks to the phlegmatic humours.

Have Culinary Uses

But we might still profit by some of their culinary uses as giving the green salad a new thrill by adding crisp primrose leaves or dropping a few in the soup pot.

The flowers are said to be gently narcotic, and a tea of them taken at night should induce sound and refreshing sleep. Perhaps we would not be interested in the flowers candied or pickled but if they grew in profusion over our meadows as they do in England we might try making a bit of primrose wine.

As the American custom is to go gathering dandelion blossoms in the spring, the English one substitutes primroses and cowslips. The old books offer a variety of recipes and it is said to resemble the muscatel wines of Southern France.

But for us, undoubtedly, their greatest mission is to lift our spirits by furnishing us with that particular charm and graciousness that belongs to the entire family known as primrose.

How to Plant and Feed Primroses

GARDENS

In a volume of British birds there appears the information that the nightingale is to be found only where the primrose grows kindly, and though we do not have the nightingale in this country, surely their song could be no sweeter than that of the hermit thrush whose plaintive notes have issued all winter from the wild rose thicket on the bank of the creek.

The thrush, of course, is interested in the seclusion he so greatly admires, not in the primroses, and the primroses, likewise, are not interested in the thrush, but
in the deep, cool soil under the alders. But country primroses are not more comfortable than city primroses because cool nooks and corners abound in and around borders and shrubbery and under trees.

Then there is always that problematical north side of the house where ferns and primroses could collaborate so happily.

Morning Sun Helps

If you have Polyanthus primroses and are not quite satisfied with their behavior, select a spot where the morning sun will warm but not scorch them and prepare the ground by spading deeply so that their roots may remain cool in the hot summer.

If your soil tends toward stickiness and you are in doubt about the drainage, throw in some gravel.

Well-rotted horse manure is a leavening for heavy ground, and is a good food. Should your soil be very light, cow manure completely decomposed will bind while supplying nutrition. Under ordinary soil conditions, sheep guano is good and bonemeal is always a safe and satisfying food.

Chemicals may be used occasionally, but sparingly. Their effect is more stimulating than lasting and there is always the danger of burning.

Should you use chemicals at all, choose one with a high phosphorous analysis for excellence of bloom. The three numerical figures on all chemical fertilizers indicate in what proportion nitrogen, phosphorous and potash are found. The middle number represents the phosphate content and should be the highest figure.

Though any spring-flowering plant may be moved while in blossom, the ideal time to reset your old primrose bed is in May or June when they may be divided. They divide very easily, some of the divisions simply falling away from the parent after the dirt has been shaken from the roots. Others need a sharp knife to separate the crowns.

Primroses should be divided every two years at least, but if they grow very rapidly, then division every year will improve your display. By dividing frequently, you are able to find and destroy the white grubs of the strawberry weevil which ruins so many primrose plants by feeding on the roots.

Perfectly Handy

By re-setting them in early summer and keeping the ground moist and loose, they may be made to wax fat and thrifty through the establishment of a robust root system which guarantees their ability to avail themselves of the food provided.

A deep root system also acts as an anchor against winter heaving caused by freeze and thaw.

Primrose are perfectly hardy but, should the thermometer get down around 20 degrees, it is well to provide a slight protection inasmuch as we are not so apt to have the warming blanket of snow as colder climates.

A thin layer of fir boughs is good because they are easily handled, quickly taken off leaving no messy debris and afford a plausible excuse for a jaunt to the woods. Be sure, however, the plants have plenty of light and air.

Acaulis primroses thrive under like treatment but will do with more shade, if you have more shade than shade plants.

Blue Polyanthus and Acaulis should have less sun than the other colors as insurance against fading. All blue flowers are enriched by iron in the soil and this can be supplied by saw filings.

Briefly, a cool, partially-shaded spot with good drainage, plenty of food and water is all that is necessary to make these primroses happy. As important as situation is, heredity is even more so, for the most perfect environment can't make a duck into a swan.
Florists' Societies and Feasts After 1750 – Part I
by Ruth Duthie
Oxford, England

In Garden History is it usual to associate the decades following 1750 with the climax of the Landscape Movement and with the relegation of flowering plants to a corner of the kitchen garden, but, as this article sets out to show, the love of flowers was by no means dead. James Thomson, who was amongst the earliest poets to write of the charms of landscape, sang the praises of flowers and of the delight of the florist. This admirer of Lyttleton's Hagley turns to 'These blushing borders bright with dew' and sees:

*The Daisy, Primrose, Violet darkly blue, And Polyanthus of unnumberd Dyes: ... Anemones; Auriculas, enrich'd With shining Meal o'er all their velvet Leaves; And full Renunculus, of glowing Red. Then comes the Tulip-Race, where Beauty plays Her idle Freaks; from Family diffus'd To Family, as flies the Father Dust, The varied Colours run; and, while they break On the charm'd Eye, th' exultant Florist marks, With secret Pride the Wonders of his Hand.*

Later he mentions 'Hyacinths, of purest virgin White./Low bent, and blushing inward', and 'broad Carnations' and 'gay-spotted Pinks'.

Amongst the many others who combined a love of landscape and of flowers was Gilbert White, whose *Garden Calendar* covered the years 1751-73. He made a ha-ha to give an uninterrupted view of Selborne Hanger but he also delighted greatly in the many flowers he grew, some of which were those cultivated by florists.

Considering how widespread were the shows and feasts where florists exhibited their flowers, it is remarkable how little reference was made to them in eighteenth century accounts of rural travel, or even in the horticultural books of the period: happily William Hanbury in his two-volume book of 1770-71 devoted a whole section to what he called 'Shed or Prize Flowers', in other words, 'Florists' Flowers'. Hanbury (1725-78) was Rector of Church Langton, Leicestershire, in which parish his family had long-lasting connections. (His son built the present, handsome Rectory.) Hanbury established a large nursery, the profits from which went to a Trust, and though this never raised sufficient money to build the Choral College he planned to present to Oxford University, it still exists and makes educational grants. Hanbury wrote:

"The florists are now become more numerous in England than has been known in any preceding age ... many clubs have been founded and feasts established, when premiums are allowed the best and fairest. These feasts are now become general, and are regularly held at towns, at proper distance, almost all over England. At these exhibitions, let not the Gardener be dejected if a weaver runs away with the prize, as is often done ... A very small shower, which may come ..."

Figure 1: Flowerpiece by Thomas Robins showing six spring-flowering florists' flowers.
Photo courtesy The Syndics, Fitzwilliam Museum, Cambridge
unexpectedly, when he is engaged in other necessary work at a distance, will take off the elegance of a prize auricula or carnation; whereas your tradesman who makes pretensions to a show will be ever at hand; can put his pots into the sun, or again into the shade . . . and this will be an ease and pleasure to him, and enable him to go to his work with more alacrity."

According to Hanbury, the flowers chiefly shown at feasts in his area were two species of Primula, the auricula and the polyanthus, and the carnation; all three were fibrous-rooted plants. The other prize flowers were 'bulbous or tuberous rooted', the hyacinth, tulip, anenome and ranunculus. Thus he named seven kinds of flowers. By about 1790, the pink had joined this select group and these eight constitute the classic florists' flowers. The pink, relegated by Hanbury to his main section 'Perennial Flower Roots', only became a competition flower when plants had been produced bearing semi-double flowers, with less fringed petals.

Before describing these eight flowers, it is worth noting that Hanbury was the first writer to describe the involvement of hand-loom weavers in the florist movement. Much has been written about weavers and other artisans cultivating florists' flowers in the nineteenth century but it is most interesting to know they were already winning prizes as early as 1770.

Figure 1 reproduces a water colour of spring flowers made by Thomas Robins the year before Hanbury's book was published. This drawing shows six of the florists' flowers, (only the summer-flowering pink and carnation are absent). The polyanthus, lying on the table, is clearly a laced variety; the fine silver edge almost bisects each red-brown petal and the central area, rather wide by modern standards, is yellow. It is not certain when laced forms of the polyanthus appeared but a gold-laced, hose-in-hose, flower can be seen in the frontispiece of Twelve Months of Flowers by R. Furber (1730). The polyanthus was often exhibited at auricula feasts, though prizes awarded the winning polyanthus were always of lesser value. It remained a regular show flower until it shared in the general decline in interest of the old florists' flowers, towards the end of the nineteenth century. There is now renewed interest in growing the gold-laced polyanthus and raising new cultivars.

Hanbury's favourite flower was the 'Bear's Ear or Auricula Ursi'. He said: "It is the pride of the English Florists . . . so while the Dutch are boasting of their grand tulips, hyacinths, etc., we may lay claim to the greater honour in our improvement of these delightful plants, for the Auricula, if we regard its sweetness of odour as well as its beauty, must claim precedence . . . of all flowers, the carnation not excepted."

The garden auricula is believed to have arisen as a natural hybrid between Primula auricula and another alpine primula. What florists have admired in this highly variable plant has changed much over the centuries. When Hanbury was writing the double-flowered forms, so admired in the seventeenth century, were no longer acceptable. The interest was in self-coloured and, particularly, in the striped varieties, and in the latter the stripes had to be clearly marked-off. By this date, the early, and probably still fairly imperfect, edged-flowers had made their appearance. In an album of flower drawings by Robins there is a watercolour of a green-edged auricula, dating probably from the 1760s. This variety, "Vice's Royal Baker", which will be mentioned in the section on Bristol, has a distinct green edge but with the purple ground-colour running out into this margin so that writers of this period, like Hanbury, made no distinction between striped and edged flowers. However, soon these edged-flowers came to occupy the honoured place they have enjoyed ever since. Separate classes for green-, grey- and white-edged flowers were formed by the beginning of the nineteenth century.

Those interested can see show auriculas, in their many forms, (and gold-laced polyanthuses) at the annual shows of the three sections of the National Auricula and Primula Society (hereafter NAPS).

Hyacinths were exhibited at the auricula feasts in certain areas, for instance at those held in towns near Reading. Robins' drawings shows an example of a florists' hyacinth; here the deep-blue, double individual flowers are arranged as a pyramidal inflorescence differing, as can be seen, from the domed, densely-packed forms of today. The hyacinth was the only florists' flower mentioned in the novels of Jane Austen: It will be recalled that Catherine Morland, who confessed to being 'naturally indifferent about flowers', told Henry Tilney, 'I have just learnt to love a hyacinth'. Hyacinth bulbs were imported from Holland and a surprisingly large number of cultivars were available in 1777, when Richard Weston listed 575 named varieties.

A tulip is also shown in this flower piece of T. Robins; it has fine stripes of pink to almost black, blending into one another. Such 'broken' tulips are familiar from Dutch paintings and it must have been flowers like these that were exhibited at the Suffolk shows (see section on Suffolk and Essex). Bulbs were imported, until, at the beginning of the nineteenth century, English florists began to raise their own varieties from seed. From about 1830 tulip shows became very popular, especially amongst Midland artisans. English tulips differed from Dutch ones in having rounded, rather than pointed, petals, and in having the broken colours sharply marked off and symmetrically arranged. Florists divided their tulips into classes: 'Roses' had a white ground with pink to crimson markings, 'Bybloemens' also had a white ground with violet to black colours, while 'Bizarres' had a yellow ground with scarlet to brown contrasting markings. These were subdivided according to the distribution of the colours; 'feathered' flowers had the colours confined to fine stripes running in from the edge of the petals, while 'flamed' ones had an additional bar running up the centre. These nineteenth-century tulips have a marvellous elegance. Some which have survived may be seen at the annual show of the Wakefield and North of England Tulip
was much loved in the seventeenth cen-
tury: A. pulsatilla, the Pasque flower; but, he said, it should be grown by persons of true taste. There must have been 'by persons of true taste let the fashion pass'-one of the ways in which the raising of seedlings is the raising of seedlings 'is the raising of seedlings' (as Hanbury said, the raising of seedlings 'is the raising of seedlings').

As mentioned, the summer-flowering pink and carnation do not appear in the Robins flower-piece. Once accepted as florists' flower, the pink quickly became a favourite show flower, and the laced pinks, particularly those raised by the weavers of Paisley, were famous. Figure 5 shows a laced pink raised by Dr. Maclean of Colchester in 1860. He also produced the variety 'John Ball', a cultivar which has survived and is being used by present-day florists interested in reviving this delightful plant. This figure also shows a picotee, raised by a shoemaker, George Kirtland, of Bletchington in Oxfordshire. Picotees are a form of carnation, called 'Franklin's Tartar' illustrated in volume I (1848) of The Florist. Photo, courtesy of the Royal Horticultural Society.

According to Hanbury, the anemone was in his time the least cultivated of all the Prize flowers, but a good example can be seen in Robins' drawing of Figure 1 (on the right-hand side beside the wallflower and above A. pulsatilla, the Pasque flower). This florists' anemone was much loved in the seventeenth century: but little further development took place in it after than time.

Hanbury praised the 'old Turkey Ranunculus' (R. asiaticus) but said it was then considered an old-fashioned flower; but, he said, it should be grown 'by persons of true taste let the fashion be what it will'. There must have been many people of true taste since Weston provided a list of 1110 named cultivars in 1777. By early in the next century they were restored to popularity but around 1870 the old florists' striped, speckled and edged flowers went out of cultivation. The ranunculus shown by Robins is to the right of the pasque flower and is typical of those of the period.

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Hanbury may have admired the auricula above the carnation, but judging by the number of carnation feasts advertised, it must have been much the more widely grown. Figure 6 shows a bizarre carnation, called 'Franklin's Tartar' illustrated in the Botanical Magazine of 1788. The term 'bizarre' meant that there were stripes of two colours on a light ground, while a 'flake' had stripes of only one colour. By this date, the stripes had to be clearly marked off and the petals of the double flower, rounded and flat. In advertisements for carnation feasts there is often a distinction made between whole-(or free-) blowers, and bursters. The latter were the older forms in which the petals were so numerous that the calyx split, spoiling the symmetry of the flower. Even though these bursters were larger, they were replaced by the nearer whole-blowers.

These descriptions reveal that florists were attempting to produce flowers approaching some ideal form. In pursuit of this ideal they had to raise new varieties. All the eight mentioned were hardy, herbaceous perennials which could set seed, from which new cultivars were raised, but the latter could then be propagated vegetatively to increase the stock of any valuable new variety. (In this century, the raiser's name is frequently attached to the varietal name.) As Hanbury said, the raising of seedlings 'is the florist's glory'.

The changing taste in what was regarded as desirable can be seen nicely when one compares Thomson's 'unnumbered dyes' and 'varied colours ran', with George Crabbe's description of his weaver-florist in the early nineteenth century:

"In vain a rival tried his utmost art,
His was the prize, and joy o'erflow'd his heart.
'This, this is beauty! cast, I pray, your eyes
On this my glory! see the grace! the size!
Was ever stem so tall, so stout, so strong!

No kindred tint, no blending streaks between:
A king of flowers, a flower for England's king."

At least both poets celebrate the exultation of their florists.

The only other early writer, and his book only appeared in 1822, to describe these feasts was J. C. Loudon. He stated, 'According to Mr. Davey, florist of King's Road, whose father was also an eminent florist, and lived to be upwards of ninety years of age, the florists' feasts and meetings were at their greatest height about London between 1740 and 1770 . . . They declined towards the end of last century but have since revived, and are at present on the increase'. Loudon then went on
to say that florists' meetings and those of gooseberry-growers, in Lancashire and the adjoining counties, were then 'numerous and on the increase, and in those parts too they were recollected as far back as 1740'.

As in my previous article, most of my information comes from provincial newspapers. By 1750 most large towns had, or were shortly to have, weekly issues. To save space in the separate sections, a few generalizations can be made. At the feasts, the dinners, frequently referred to as 'the ordinary' or 'a good ordinary', were served at 1 p.m., though occasionally an hour later. The flowers had usually to be handed in at mid-day and, after the judging, were to be on view by 4 p.m. It appears they were passed round the members, who were seated at a table. No mention was made of the fare served at this meal for which the cost varied from 1s. to 3s. 6d. Prizes varied too from area to area but little within the given region. Details will only be given where there is some special interest. The characteristic first prize was a silver table spoon, though often plate to a specified sum was to be given; rarely more than £1 10s. for the first, 15s. for the second and 5s. for the third or seedling prize. In some parts the awards were in cash. It seems pointless to convert to decimal currency; the value of the prize is best conveyed by that of the large silver spoon.

The advertisements for the feasts invited the attendance of 'Gentlemen, Florists, and Gardeners', but sometimes the comma between the first two was omitted, altering the meaning. Frequently, there was a statement that if any gentleman had not received a card, he was to consider the advertisement as an invitation, thus indicating the existence of a Society that informed members of forthcoming shows.

The advertisements were sometimes rather grandiously expressed, with a suggestion of an apologetic attitude to their hobby, referring to its innocence and improving qualities; an extreme example can be seen in that for Newcastle upon Tyne (16 April 1768). In most areas a warning was given that the plants must have been in the possession of the exhibitor for at least three months. This rule must have been evaded, for threats of expulsion of offenders were sometimes added. Again, in many areas competitors had to subscribe towards next year's prizes. In general the advertisements imply the existence of loosely organized societies, holding annual feasts, supervised by stewards.
where florists held feasts. In 1773 (17 April) and 1774 (9 April), there was the *Annual Meeting of Florists* and by 1777 (12 April) it was referred to as a Florists' Feast. Auriculas and polyanthuses were to be awarded prizes. In 1791, both spring and summer feasts were advertised (23 April and 16 July), while in 1796 only a carnival show was announced, with prizes for the best 'Bizarre, Flake and Piccate'. In Southwell a Friendly Society of Florists was to hold a florists' feast in 1787 (7 April) where the prizes included one for a seedling auricula. In 1783 (2 August), at the same Southwell inn, a carnival feast was to take place.

There is much similarity between the Leicester and Nottingham florists' meetings: spring shows always included polyanthus prizes as well as those for auriculas. Temporarily, in the 1780s, both cities had two, possibly rival, spring feasts. Carnival feasts continued after those for the spring flowers had ceased. As notices of feasts became fewer, prizes for the heaviest gooseberries were offered at the carnival feasts.

### The Broadsie from the Society of Florists at Leicester

Figure 7 shows this most interesting broadside, (though somewhat reduced in size). It was devised to assist the umpires in judging the flowers, so prizes should be given for those nearest the ideal form. It outlined what florists called "the properties" of the plants. The description of the carnation (though this word is not actually used) agrees well with that given in the introduction of this article. 'Leaf' is here used for 'petal'.

The description of the ideal auricula gives an excellent account of the edged flower, green- or white-edged, since grey-edged ones were not then differentiated. The ground colour could vary greatly, but had to be rich. The proportions between the parts were similar to those given by James Maddock in the *Florist's Directory of 1792*, and indeed much as they are today. It is clear that

**The Flora of the CARNATION, AURICULA, AND POLYANThUS; As laid down by the Society of Florists, at Leicester.**

Recommended for the Affinity of such as may be chosen Unions.

Their Observations brought up in the Committee Room where the Flowers are, will enable a Florist that is a Stranger to the Qualification of Flowers, to make choice of the best of each Sort.

**Buds and BLOOMING BIZARRE, or FLAKE.**

A Clear White, and free from Spots or Specks.

A Red Leaf, free from Nicks on the Edge.

A Blue Colour beneath White, wherein the Centre the better, if the White be clear.

The Sides of the Blossom.

The Name and Compliments of it.

The Fringe to have the same Qualifications, in two Colours, a mix a White, with a Purple, or Red.

**The Whole Blooming BIZARRE.**

A Clear White, free from Specks or Specks.

A Red Leaf, free from Nicks on the Edge.

One Colour, and the White, either Purple, or Pink, or Red, the height and Stalk the better.

To be whole blown, and not whitely laid down in any part of the Celts.

The Sides of the Blossom.

The Name and Compliments of it.

**The FLAKE.**

A Clear White, free from Specks or Specks.

A Red Leaf, free from Nicks on the Edge.

One Colour, and the White: either Purple, or Pink, or Red, the height and Stalk the better.

To be whole blown, and not whitely laid down in any part of the Celts.

**The Whole Blooming FLAKE.**

The Sides of the Blossom.

The Name and Compliments of it.

**The BIZARRE and FLAKE.**

In the BIZARRE and FLAKE, we fix Qualifications, of which will be different for any Gentlemen to make choice of the best Flower.

A Clear White.

A Red Leaf.

To be whole blown.

The best Colour.

**The PICATE.**

A clear White.

The Colour will break down each Leaf, and situated in the Middle of the Edge of every Leaf.

To be whole blown.

**A Description of the Properties of the Fine Variegated Auricula.**

The Properties of an Auricula, are similar to those of a Polyanthus. The Stem, Leaves, and Formation of the Bunch, are Tubes of Flowers.

A Definition of the Petals, and their Beautiful Colours, therefore remain only to be considered.

The Summit of the Pipe, or Neck of the Petals, ought to be symmetrical, and fill the Tube well with the Austers, especially as it is in the nature of that beautiful Variety, in which the Polyanthus Petals, so much for a straight, clear White, and round, without any Curkis, and different from the Ground Colour.

Any Person may have the above by applying to Mr. SAMUEL STATHAM.
the laced polyanthus was fully developed by this time, and interestingly enough, had outstripped the auricula in the march towards the perfect flower.

It is important to date this broadside as closely as possible, since it contains such an accurate description of the laced polyanthus and edged auricula. Although it refers to the Society at Leicester, it was printed by 'Burbage and Son, Printers, Nottingham' and was obtainable from Mr. Samuel Statham. No one of this name has been traced in Leicester, but a Mr. Samuel Statham was president of a florists' show in Nottingham in 1796 (30 July) and in the directory of 1799 a hosier of that name lived in Pilcher Gate, Nottingham. George Burbage started printing there in 1747 but the *Nottingham Journal* appeared under the imprint of 'Burbage and Son' only between 1782 and 1786; it is known the son died in 1786, so it is most probable that this broadside was printed in the early 1780s and thus predates Maddock's description of these flowers: it is probably the earliest account in existence. It is of interest that separation of the carnation into different classes for the award of prizes took place before that of the auricula. No separate classes for edged flowers were found until the beginning of the next century.

Norwich

No city produced earlier or more interesting information about florists' Feasts and Societies than Norwich (Duthie, 1982): however, after 1750, it has proved difficult to make a coherent picture of florist activity in the area. Undoubtedly, the famous Venison Feast was held at the Maid's head in 1751 (NM August) 3), but no competition seems to have been held; rather, the company was 'de- lighted to come and view the great variety of new and well blown Carnations'. The president on this occasion was Edward Bacon, Esq., most probably the MP and Recorder for Norwich, and the four stewards appear to have been a saddler, a worsted weaver, a glazier and a barber. Later venison feasts held in, or near, Nor- wich did not involve showing flowers.

That year, 1751, two other carnation exhibitions were held, both showing a new pattern — the shows went on for a week. At the Flower-in-Hand (NM 1 August) the advertisement said: 'The Shew will be supplied with fresh-blown flowers all week'. A similar week-long show was advertised to take place at the Gibraltar, Upper Higham (NM 24 August in 1751) and again in 1762 (NC 7 August), and at a similar type of show at Conisford in 1770 (NC 18 August), the landlord would be 'grateful to anyone who could oblige with a few Blossoms'.

Pleasure Gardens played an important part in the Norwich scene: Mr. Trevor Fawcett has given an account of them and traced the complicated changes of ownership. In 1760 (NM 2 August) at Fabb's Garden, there was to be a 'Curious Shew of Whole-Blowing Carnations where all Gentlemen and Ladies, and others, may view them at their Pleasure'. A similar show was to take place there in 1766 (NM 9 August). Later, Quantrell's Gardens became a popular place for concerts and ballooning, but shows of florists' flowers also took place. In 1780 (NC 18 April) there is a report of an auricula show held there when the first prize went to the owner of the auricula, 'Riding's Ethiopian King', and the second for 'Stow's Fame'. Both these flowers were stocked by James Maddock; and Stow, the raiser of 'Fame', was probably the noted Coichester florist mentioned by J. Bensusan-Butt. That year (NC 17 June 1780) 'the annual Shew of Pinks' was to be held when a prize was also to be given for the best seedling (1780 was an early date for a pink show). A carnation show was also advertised that year (NC 29 July) when the flowers were 'to be adjudged at six o'clock, supper on the Table at eight'. These shows, held at Quantrell's Gardens, catered for members of a florists' society, for at the carnation show it was 'hoped all Florists who belong to the Society will attend'. The change was to provide sup- per in place of the old mid-day feast; but a typical Florists' Feast was advertised in 1781 (NC 28 July) when, at the Shoulder- of-Mutton, a prize was to be given for the six best free-blowing carnations. After this date, no notices of florists' shows were found in any of the Norwich newspapers until 1829 (NC 23 May), when 'the Sons of Flora' were to hold a tulip show at the Pot-of-Flowers, 'to be conducted in the same manner as the shows of this kind in Lancashire, Cheshire and Yorkshire'. There was a long article about these 'Sons of Flora' that year (NM 11 July) telling how the Society of Florists was revived in 1828, 'chiefly by the exertions of an artisan named Dover, who brought with him from the North and West of England many choice roots. It consists of something over thirty members'. Readers were encouraged to support the Society, formed of 'men of very humble condition who devote their short minutes of leisure to such a pursuit'.

In the autumn of that same 1829, the Norfolk and Norwich Horticultural Society was formed. This important society, one of the most flourishing of all those founded about 150 years ago, is also well documented, first in 1833 and then at its centenary. It is clear from the earlier account that there was close collaboration between this society and that of the florists. The artisan, Dover, and others, won many prizes in the classes for florists' flowers. We learn too, of the use made of all those spoons awarded to successful exhibitors:

Many an industrious, skillful man may now furnish himself with a set of silver tea spoons, and sugar tongs to boot, and eat his green peas with a handsome silver dessert spoon instead of a pewter or iron ladle.

It is of interest to see this revival of 'the Sons of Flora' (a term always used in the early days in Norwich), linked with Northern florists, for it is widely held, even if not proven, that the Huguenot weavers brought with them their special flowers when they settled in East Anglia, and that their descendants carried their love of flowers with them when they moved to Lancashire and neighbouring counties, to establish the weaving industry there.

We gain a good idea of the gulf between the old florists' feasts, with their 'good ordinary' at 1 p.m. and the grand celebrations of the new horticultural society. In the centenary account (pp.33-35), the 'Déjeuner' held at 5 p.m. on 19 September 1838 consisted of a 'cold collation' of about 150 dishes of meats and fish, including 40 of oyster patties, followed by a vast selection of sweets and fruits. Quadrilles, waltzes and gallopades followed until 10:30 p.m., while tea, coffee, ices and negus were offered during the entertainment.

Figure 8. 'Meeting of Florists of Olden Times'. The Frontispiece of volume IV (1851) of *The Florist*. This shows what an eighteenth-century florists' feast might have been like. Photo courtesy of the Royal Horticultural Society.

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A Synoptic Guide to the Genus Primula

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