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Parks

THEIR DEVELOPMENT, BEAUTIFICATION, AND MAINTENANCE.

(By M. J. Barnett, Superintendent of Parks and Reserves,
Christchurch).

Read before the Conference of the New Zealand Parks
Superintendents' Association, 1936.

This subject has already been ably dealt with at previous conferences by members of this Association. It is somewhat difficult, therefore, to handle this question without covering the same matter.

Having this in mind, it is proposed not so much to discuss the underlying principles governing the design and development of parks, but to a greater extent, to base the matter on the actual experiences undergone by the writer, when undertaking this class of work over a period of several years. It would be impossible, with the time at one's disposal, to adequately deal with this subject—only the merest fringe of the matter can be touched on.

It is therefore hoped that a full discussion on the various aspects mentioned in this paper will follow, so that members may be assisted, to some extent, to cope with those problems which might confront one under similar circumstances. It is only, by basing our work on the experiences of others, that mistakes can be eliminated and a good job of work performed.

It is not the object of this paper to discuss the need for parks and open spaces. These are essentially part of any town planning scheme, and equally important in the life of a community as other health services. It was the need for parks which created the park superintendent, and not vice versa.

THE DESIGN OF PARKS.

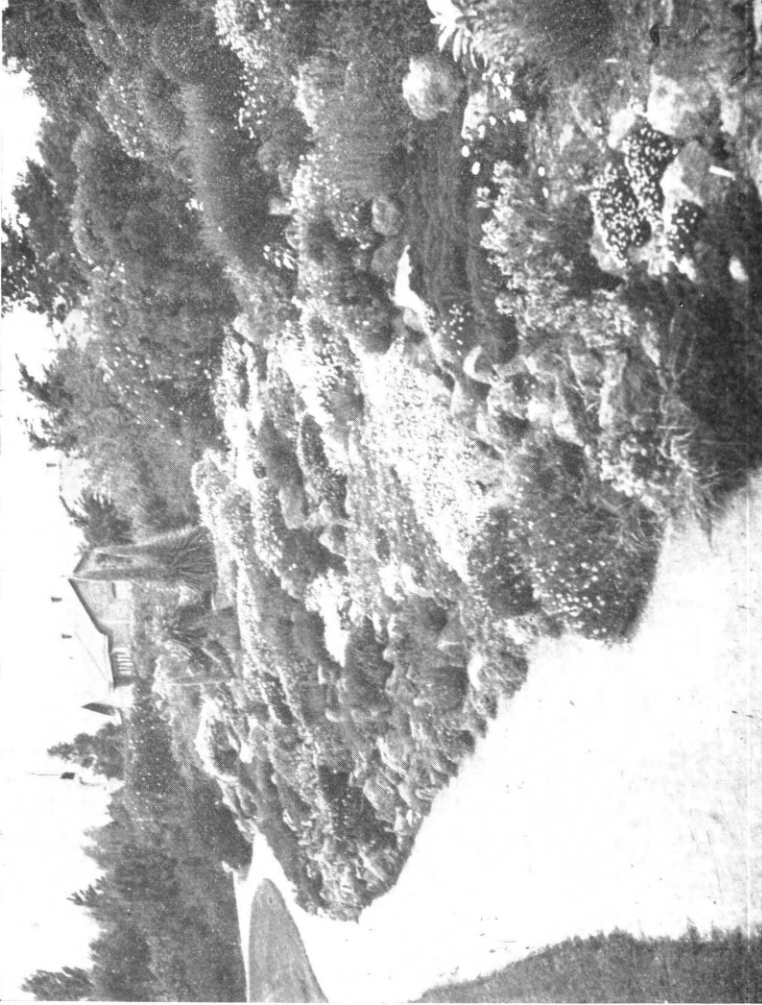
There is no stereotyped design for any two parks, no matter how close the similarity may be. Each area intended for a park has its own problems and demands separate treatment. It would be futile, therefore, to attempt to discuss this point any further. There are, however, certain fundamental principles, governing their design and future development, that cannot be disregarded. A mistake made in the beginning may not be obvious at the time, but years later will prove costly to rectify, and may mean a complete revision of the whole of the original plan.

Naturally, one of the first points governing the design will be the area at one's disposal. Take, for instance, a suburban park definitely intended for the use of the residents of that district. Every endeavour should be made to have the area sufficiently large to serve all sections of the community, and, if possible, to have it situated in the heart of the district, so as to be within easy reach of everyone. The minimum area for a serviceable park should be ten acres, but twenty acres is nearer the mark. A park, situated on the outskirts of a community, will only be of service to the immediate neighbourhood, but will not cater for the bulk of the residents, for whose use it was intended, and who, in all probability, are rated for the cost of developing and maintaining it.

To cite a case in point. We have a park of some $17\frac{1}{2}$ acres, situated on the town boundary. At the present time, it is more enjoyed by the residents in the adjoining county, who contribute nothing towards its upkeep, than it is by the citizens, who are rated for it. No doubt, in course of time, the City will absorb that portion of the county, but in the meantime, the arrangement is somewhat unjust.

The area and situation of the park having been determined, the actual work in connection with the design has then to be considered. One of the first questions is to what use it is going to be put, not only for the present, but also in the future. If it is to be a neighbourhood park to serve one community or district, the following features must be taken into account: areas for summer and winter sports and for enclosed games such as tennis and bowls, buildings such as band rotundas, conveniences, pavilions, and perhaps swimming pools, pathways, trees, shrubberies and flower garden—in fact, all those amenities which make a park appreciated by, and of definite service to, not one class but to every resident of the district.

The consideration of these features will emphasise the need for a definite plan of the park. This should be drawn up by a competent draughtsman working under the guidance of the superintendent, who should consider each detail, not only as a separate unit, but also in relationship to each other feature. There should be complete harmony and inter-relationship between each component part of the whole.



THE ROCK GARDEN, BECKENHAM PARK, CHRISTCHURCH.

It may be said that this work should be undertaken by the landscape architect. Maybe, but in New Zealand at any rate, the park superintendent must recognise amongst his duties that of landscape architect. He, by reason of his training, knowledge, environment, and inherent love of the beautiful, is more fitted to advise on these matters than the self-styled landscape architect, who may be a borough engineer, surveyor, or structural architect. I do not wish, in any way, to detract from the capabilities of these gentlemen. They are experts at their own job and their knowledge should be consulted, and their co-operation welcomed.

Once the salient features of the design have been agreed upon, it should be strictly adhered to. It may be necessary to alter small details but, in the main, the plan as a whole should not be interfered with. It may be, and it is usually the case, that the fulfilment of the plan, through lack of finance, cannot be carried out in one year or even in a few years but, if there is a plan to work to, then the gradual development of the park will be towards the consummation of that plan. Unfortunately, however, many of our parks, like Topsy, "just grew." Odd features and buildings have been added, from time to time, to meet the demand for them. There is no co-ordination, no strength of design, weaknesses are evident, and the whole thing is unsatisfactory.

DRAINS.

After the grounds have been roughly levelled and grades attended to, the whole area under development should be adequately drained. We are too apt to neglect or skimp this work, looking upon drain pipes as so much money that will be buried. It is work which, once completed, does not appear in the public eye, and we would rather utilise any funds which are available to carry out park beautification, and so earn the approval of citizens.

This, however, is a short-sighted policy, weak in practice, detrimental to the use and well-being of the park, and one which will prove more costly to rectify in the long run. Therefore, even in those localities where the average rainfall is low, and where ten months out of the twelve may be comparatively dry, the question of drainage must receive special consideration, for a few weeks of heavy rains will, unless good drainage has been provided, not only render the sports fields unplayable for the time being, but will cause the soil to become supersaturated with moisture, with the subsequent result that the physical condition is such that the turf becomes poor in quality. Remedial measures such as top-dressing, fertilising, and re-seeding are carried out, whilst the whole cause of the trouble lies with the need for good drainage.

It may be contended that the cost of drainage can be reduced to a minimum, by grading the playing fields to one or more main drains, thus disposing of surface water during excessive rains. This method has been tried and, while it may serve this purpose, it does

not deal with the draining of the subsoil. Where heavy or retentive soils have to be dealt with, only a well reticulated system of drains will prove effective and of benefit to the turf.

The practice generally adopted is to open up the trenches, to a depth of 18 inches to 3 feet, according to the fall obtainable. In the bottom of the trench, a 3-inch course of rough shingles is placed. The drain pipes are then fixed into position on top of this, after which another course of shingle is filled in round and on top of the pipes. Old cement sacks or light scrub is then placed over the shingle and the trench filled in. In addition to giving additional drainage, the shingle prevents soil from filtering in and silting up the pipes, particularly at the joints. Even on light soils of a sandy nature, this method is to be recommended.

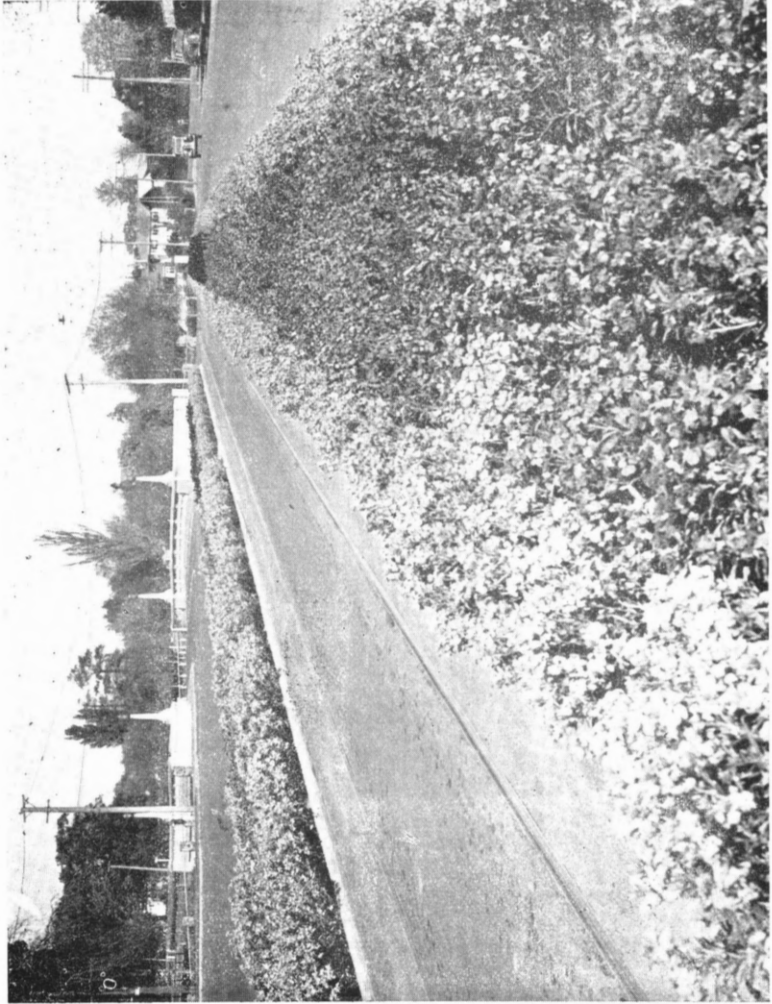
To demonstrate the advantage of the above method, and also the need for marking such matters on the park plan, it might be mentioned that last winter, after repeated complaints about the sodden condition of certain football grounds, it was decided to drain a considerable area in one park. During trenching operations, several old pipe lines with the pipes intact were found. In most cases, however, the space between the pipe joints was completely sealed over with worm casts and the pipes themselves were half filled with silt. Had the drains been properly put down, much of this silting would not have occurred and likewise, had records been kept, the pipes could have been lifted and re-used.

It should be clearly understood, that these remarks apply only when dealing with normal types of soils. Where the conditions are abnormal, other methods of draining may have to be resorted to. For instance, when having to deal with an old swamp where bog conditions still prevailed, the most effective drain was found to be one, which consisted of bundles of faggots, each bundle, which was about 15-inches in diameter, being composed of faggots from 1 to 2 inches thick and laced together with binding wire. These bundles were placed in the open drain, which was half full of water, and were kept in position by placing a course of large rubble on top of each one.

WATER SUPPLY.

Possibly in Auckland, where I understand the average rainfall per annum is 44.5 inches and where, as much as 22 inches in one month is possible, the need for a well reticulated high pressure water service is not essential, but in other centres the position is not so good. The average rainfall per annum, in Christchurch, is 24.94 inches. Last year the rainfall was 22.07 inches.

Under such circumstances as these, there is no need to stress how essential it is to have a good water service reticulated to every part of the grounds. This matter should receive attention right at the outset and not be left, as is so often the case when endeavouring to keep down initial costs, until some indefinite time when circum-



WALLFLOWERS, BEALEY AVENUE, CHRISTCHURCH.

stances will permit. The uneconomical soundness of such a policy may be judged from the following.

Four or five years ago when laying out a park, the question of water supply was held over. During the drought of 1934-35 the grass became parched up and died off in large patches and the soil shrank and cracked with the result that the surface became very uneven. What was the consequence? The park was closed to winter sports, and practically the whole area had to be scarified, top-dressed and re-sown. Naturally, a water supply was then installed, but much of the expenditure could have been kept down, had this been done in the first instance.

I am not prepared to advise as to the most economical and most effective method of dealing with the question of water supply. Where a good supply of water is available from a lake or stream, the electric pump may be used to advantage, and the running costs will prove comparatively cheap, both with regard to cost of current and labour. Most of our parks, however, are supplied from the city's high pressure water supply. No restrictions with regard to use are in force, but each lead from the main is metered and the Waterworks Department receives 4d. for every 1,000 gallons registered. A park of 14 acres uses during the summer season, on the playing fields, approximately 800,000 gallons to 900,000 gallons.

With regard to the laying of pipes and the placing of hose connections, our aim is to have these so situated that each hose connection is about 150 feet away from the next. Thus, with a hose 60 feet long and a sprayer with a radius of at least 15 feet, practically the whole area will be covered. A better method of watering parks and playing fields, other than that of shifting hoses and sprayers from place to place, should receive the attention of experts. One such method is in use on one of the golf links in Christchurch, but the cost of installing this system in a number of parks would be sufficient to frighten those in control of the public purse.

PATHWAYS.

When deciding what lines the walks, drives and pathways should follow, there are certain points to consider. One of the first of these is to determine, where is the pathway to lead to and does it have a definite purpose? The practice of dissecting a park with meandering walks, for the mere sake of giving extra embellishment or an extra flourish, so to speak, to the design, is to be deplored. Such meaningless pathways, particularly when surfaced with gravel or bitumen, are tiresome both physically and mentally. These are costly to construct and by no means tend to keep down maintenance costs.

It may be argued that, when the design of the park is being planned, foresight should be shown, and ample provision made for walks or driveways, that may be necessary in the future. Quite true, it should be done. But why go to the cost of construction and up-

keep until such features are required? Let planting and other work be so carried out that, when the provision of means of access from one point to another is necessary, the pathway or walk may be constructed, without interfering with or sacrificing what developments have already been attended to. The planting of avenues or groups of trees and shrubs, along what may ultimately be the margins of a main walk, can be carried out years before the latter may actually be required.

We had in Christchurch two comparatively new parks where, at considerable cost, pathways about 12 feet wide and completely circling the playing fields, had been constructed. These pathways, formed of clinker and other debris and which were never used, became infested with twitch grass (*Triticum repens*). The chipping of this grass was almost a ceaseless task and little labour could be found for maintaining flower borders, which would have been more appreciated by everyone. In a very short time, the pathways were ploughed up, the debris removed and the areas sown down in grass.

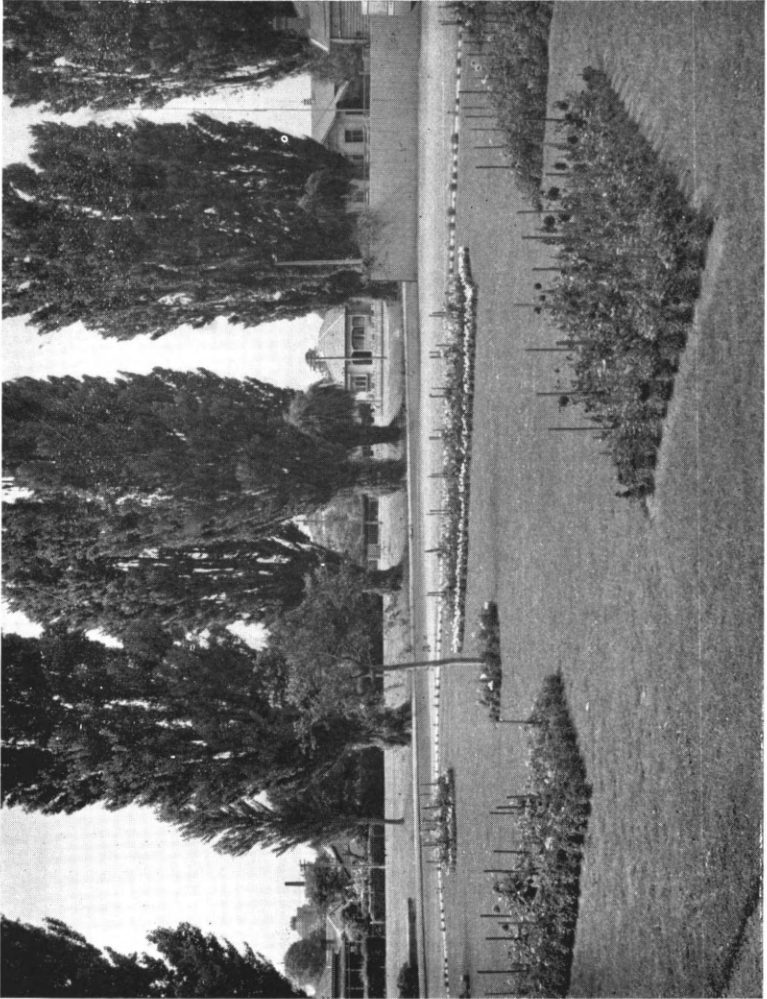
In another case, when laying out the design of a park, allowance had been made for the erection of a band rotunda at some future date. Possibly as an incentive for the erection of the rotunda, a circular pathway was constructed round, what might be termed, that portion of the park retained as an auditorium. This pathway also became infested with weeds, until the youth of the district decided to use it for practising broadsiding. Eventually the band rotunda appeared, but the pathway had disappeared and shrubberies and flower beds had taken its place. The residents of the district have never expressed a desire for the re-establishment of the circular promenade.

To put the case in a nutshell, I will repeat a remark once made by our worthy Secretary: "A pathway, unless regularly used, is only a place for weeds to grow in."

On the other hand, when dealing with those such as city squares or, what the American authorities describe as passing-through parks, the provision of broad pathways, giving the shortest and most direct route from thoroughfare to thoroughfare, is of primary importance. Any attempt to divert the main stream of pedestrian traffic off the beaten track will be frustrated.

PLAYING FIELDS.

When the question of providing playing fields for such games as cricket, football, and hockey is under consideration, it has to be determined whether the whole of the park area is for this purpose or whether the park is to serve the needs of all sections of the community. If the former, then every other detail is only of secondary consideration; if the latter, then the playing fields must be considered, only in relationship to other features, and should not be allowed to usurp the whole area to the exclusion of all else. Those of a peaceful nature or aesthetically-minded, have as much right to



A LEFT OVER CORNER BEAUTIFIED--CHRISTCHURCH RESERVES.

enjoy the finer amenities of a park as those who wish to indulge in more vigorous recreation.

When designing, what might be termed, a community or neighbourhood park, it is an established axiom to take advantage of every natural feature, in fact, it is often wise to create certain features such as terraces, mounds and so on. If this is done, and the extent and position of the playing fields clearly defined, no attempt will be made by the clubs concerned to filch more than their fair share. On the other hand, if the whole of the area is laid out to one general level, one can rest assured that sooner or later, sports clubs will petition for the whole of its use. If, however, such a situation cannot be avoided, then if it is desirable that the playing fields should be restricted to their true proportion, tree planting should be carried out at the earliest period. Everyone here knows that there is no more jealous guardian of trees, when one has to be cut down or removed, than the average citizen.

ENCLOSED GAMES.

The allocating of grounds and courts for such recreations as tennis, bowling, and croquet, is a more perplexing question. In a small park, their inclusion often means curtailment of the space, to such an extent, that insufficient area is left for the general use of the public. No sooner are such grounds granted to these fraternities, than there is a demand to have them enclosed and shelter provided. Thus the enclosed areas are alienated, as it were, from the rest of the park.

In many cities, there are small reserves, varying from one-half to two or more acres in extent. When not required for children's playgrounds, and if at all possible, the authorities and players should be urged to utilise these spaces for such games, rather than to enclose a portion of a small park. In larger parks, say from 10 to 20 acres, ample provision should be made when considering the design. If this is not done, it will inevitably be found that, at some later period, pressure will be brought to bear and space will have to be provided, even at the expense of ruining the original design. There is a glaring example of this in our city. The main pathways were constructed, an avenue was planted and handsome stone gateways were erected. The tennis and bowling clubs demanded space. After much controversy, they succeeded. The main walk and trees had to be shifted, with the result that the ornate gateway is quite out of focus and its position is incongruous.

When making provision for such games, every endeavour should be made to have them adjoining each other and not separated in different parts of the park. The reason for this will be explained immediately.

BUILDINGS IN PARKS.

It is inevitable that all sporting fraternities, using the park, will require dressing sheds or pavilions. In the case of enclosed games, it is more economical to all concerned and more in the interests of the park, to have one composite building, that will serve all three—bowling, croquet, and tennis. This is a much more satisfactory arrangement than that of having separate structures for each sport. The construction costs are much less and, from the point of view of appearance and beautification, one good building is much better and easier dealt with than three or four small ones, in various positions and of different designs.

Amongst other buildings that should be allowed for in considering the design of the park, are residences for custodians. It is in the interests and well-being of any park, to have a resident caretaker in charge, particularly where the area exceeds, say, 10 acres. In Christchurch, we have five resident caretakers, in charge of parks varying from 14 to 24 acres.

The structural lines of any buildings erected on public parks should, in so far as it is possible, conform to the general design and surrounding landscape. Buildings of good architectural design may appear entirely alien to the general surroundings.

BEAUTIFICATION OF PARKS.

This is a phase of park development which, unfortunately, is too often reduced to a bare minimum and, in some cases, especially where facilities for sport are the main consideration, is totally ignored. It is quite true that, in the case of the recreation park where practically the whole space is required for the playing of games, little or no opportunity is afforded for beautification. Still there are many instances where, by using a little foresight and ingenuity, many of our parks could have been made to present a more pleasing aspect than they do. Too often many of our suburban parks are mere open spaces, with a few trees planted to relieve the monotony. Except perhaps for the actual playing field, the park has a neglected and uncared for appearance, like a street waif who is no one's special responsibility. Such spaces do not tend to give better tone to the neighbourhood, do not create civic pride, and are not an influence for good. They are what they are—mere open spaces, lacking expression and devoid of individuality.

When taking up the position in Christchurch, one of the first objects of the Department was to develop the aesthetic side of our parks. In this, we were encouraged by the Chairman and members of the Reserves Committee. No sooner had certain embellishments been carried out in one park, than other districts also wanted improvements for their reserves, and enquired why Park A should receive better treatment than Park B. Naturally, such work could only proceed on definite lines, and as funds were available, but local associations were assured that the park they were particularly in-

terested in was not being overlooked, but that plans were in preparation and would be given effect to in due course.

All, however, was not plain sailing. On one occasion, the residents of one district strongly objected to certain contemplated improvements, on the grounds that a number of trees planted by them would have to be removed. These trees were entirely unsuitable for the position and soil, and were merely existing but not thriving. Eventually two plans were prepared, one showing the area as it looked under the present conditions, and the other depicting how it would appear, if the improvements were carried out. To make a long story short, this had the desired result. The work was put in hand and, in the following year, the same citizens petitioned the Council to extend the scheme.

When carrying out schemes of beautification, it has been the object of our Department never to duplicate the same style of design or planting schemes, if such could be avoided, the aim being to give each park a distinctive feature. Park A has its rose garden, Park B its rock garden, Park C a garden devoted entirely to the cultivation of native plants, Park E is famous for its herbaceous borders and so on.

Before putting any plan into operation, it is imperative that careful consideration be given to what types of plants are to be used. Only those that will thrive, under local conditions, are worthy of inclusion. This, and their suitability for the environment, should be one of the chief determining factors, when deciding on the design or scheme of beautification. Imagine the futility of endeavouring to establish a rhododendron or azalea garden on dry, hungry soil, in a position exposed to the prevalent winds. In a comparatively short time, such subjects would be a pitiful collection of decrepit specimens, depressing in appearance. Such a state of affairs is more likely to excite the destructive tendencies of the youngsters, rather than to earn their regard and appeal to their better sense of appreciation.

A situation, as described, could be put to better use, by employing such subjects as the ornamental brooms, Cistuses, and other drought resisting plants, that will thrive under uncongenial conditions. It is in this respect, that the competent gardener will triumph over the pseudo-landscape architect. The latter may present a beautiful design, which is excellent in theory but utterly impossible in actual practice. More than a superficial knowledge of plants and their requirements is necessary, if any scheme of beautification is to be a success. It may be argued, and with some truth, that it is the duty of a good gardener to create out of the poorest material, a situation in which any plant that is hardy will thrive. He should, and no doubt he can, but at a cost. It is our duty as park superintendents, to give the best possible results at the least possible cost. In botanic gardens the case may be somewhat different, it being the object of such institutions to be educative as well as to provide displays for public admiration.



SECTION OF ROSE GARDEN, LINWOOD PARK, CHRISTCHURCH.

As a means towards keeping down costs of maintenance, the gardener should, when making out his planting lists, confine his choice to those subjects that will require the minimum amount of attention. Plants requiring constant care and special treatment should be avoided. Time and labour taken in such operations as pruning and spraying, necessary for the well-being of these plants, must be reckoned with in estimating the annual cost.

One argument used against floral displays in public parks, is the amount of destruction that takes place. Such an assertion is but to stigmatise the inhabitants of the district. It would be foolish, of course, to state that such damage does not occur, but it can be reduced to a minimum. School teachers, as a whole, will be found eager to co-operate in educating the children to a better sense of the value of things. Local associations will also help. But perhaps the greatest incentive for good is the example set, and maintained by the park authorities themselves. Carelessness begets untidiness. Once let a park become untidy or appear neglected, and the public will adopt the same casual attitude towards it. On the other hand, keep the grounds as near perfection as possible, and the public will show its appreciation by displaying that regard which is due.

The practice of periodically putting a park in good order and then allowing it to slip back until such time as it is again due for a thorough overhaul, is not in the best interests of all concerned. Such spasmodic efforts will not retain the goodwill of the citizens.

MAINTENANCE.

It is the aim of those responsible for the administration of parks and gardens, to render the most satisfactory service at the least possible cost. Every park superintendent, in addition to being a practical man, able to direct and organise his staff, should be a good administrator. As the executive officer of his department, he should be able to account for every item of expenditure and satisfy those in authority over him, that all moneys have been spent to the best advantage. He who can render a good account of his stewardship by what has been achieved, rather than by glowing reports, will earn the confidence and respect of his employers and colleagues. If the civic authorities are satisfied that any sum of money granted to the department has been wisely spent, there is more possibility of larger sums being made available to that department, than would be the case if past expenditure could not show a substantial benefit for the public good.

The Christchurch City Council insists that its Parks Department shall keep a separate account of the expenditure on each of the parks and reserves under its control. As there are over thirty-six of these to handle, considerable bookkeeping is necessary. The practice is, however, a good one, as each item of expenditure can be duly accounted for.

Although it has been shown that the cost of maintenance will, to some extent, depend on the manner in which the park has been designed and developed, it is hardly necessary to state, that the main cost of upkeep will depend on the ability of the superintendent and his staff. Those using the park should, however, realise their responsibility in this direction. Sports bodies demanding special privileges, should contribute their fair share for concessions granted and work performed. Likewise, the general public, by showing due regard for efforts carried out on their behalf, can do much to assist in keeping down expenditure.

The co-operation of local burgesses' associations, and the appointing of honorary rangers, who will take a protective interest in the welfare of public property, are to be encouraged, while the raising of public subscriptions, for the purpose of procuring some special feature for the park, will tend to make the citizens more appreciative of what is done.

In conclusion, let us even be aware of the fact that public parks, gardens and recreation areas are solely for the people and not for our especial benefit.

POPULARISING THE DAHLIA.

(By M.L.G.)

This champion modern flower is frequently objected to by the public on the score that it is difficult to keep fresh and to arrange in vases. These lines are penned to show how these objections may be overcome, thus encouraging its cultivation and increasing the trade. The writer has carried out a number of experiments over several seasons, therefore the following recommendations may be accepted as thoroughly demonstrated.

The cut dahlia will last as long as it would on the bush, viz. from 4 to 6 days if treated as follows:—Cut it the next day after the bud first opens, to allow it to thoroughly mature. This makes the flower larger and prevents drooping of the stem next to the head. Since the end of the stem immediately it is cut, holding it horizontally in a gas flame, for 4 to 8 seconds, according to length of stem. On retiring at night, remove them from the vases and allow to float face upwards till next morning, either along the bottom of a bath containing 2 to 3 inches of water, or in a sink or basin. Drain off the water in the morning, allow to remain awhile to drip, and then set up in the vases again. This must be done for the first two nights, in warm weather three nights, after which they may be allowed to remain till finished. Each time they are set up, two or three inches should be cut off the end of stalk, because the nearer the head is to the water, the better. Nothing less than 7 or 8 hours is sufficient for such soaking, but if this cannot be given, they may be refreshed temporarily by being turned face downwards in water for 3 or 4 hours. This should be done when first picked if the back petals adjoining calyx feel flabby to the touch.

It is true that the dahlia is too large and heavy for arrangement in bowls; it is too handsome for massed effect and demands square-on display separately. Unfortunately, suitable vases are hard to get, and it is hoped the trade will respond to this want. Meantime, the following will be found satisfactory. For decoration of a room, the only satisfactory way to display dahlias is by means of mantelpieces, shelves or brackets. A mantelpiece with unframed mirror behind for its full length and at least 2 feet wide, is ideal, especially if surmounted by a shelf 8 inches wide, this again being backed by a mirror at least 15 inches wide. When cut with an arch rising some 6 inches in centre and tilted forward 3 inches, the effect is of reflections in a still lake and nothing more beautiful could be imagined. Every flower is duplicated from different angles, and the colours are greatly enhanced.

Glass or china specimen vases about 8 inches high and 1 inch in diameter, are the best for single blooms of the largest size. These may be flanked at the foot or in between by little pots 3 inch x 1 to 1½. As these cannot be bought sufficiently heavy to stand, disused glass fishpaste jars or vaseline pots can be used, being completely hidden by the blooms and foliage. The stalks are then cut short

enough to just support the blooms on the edge and clear the shelf or mantelpiece. Large vases for the ends or centre should be of the oval variety, about 6 by 2 inches with squared ends, in which case three to five blooms may be arranged according as the length of stem allows. It now becomes necessary to wire these to prevent flopping, if the vases are not narrow enough. After a lot of experiments, the following has been found the best:—Cut lengths of medium fencing wire, $\frac{1}{4}$ inch circumference, varying in length from 12 to 16 to 20 inches, say a dozen in each length, the long ones for behind, the medium for sides and the short for front. Twist the wire at top to form a hole $\frac{1}{2}$ inch diameter and bent to right angles. . Make another twist in the centre of wire. Thread the stalk through these and secure the end to the wire by means of two or three little rubber bands, tied or twisted till tight. This holds the flower in perfect position, with the head square on. If the vase is too wide in the middle to hold the stalks upright, fix them with a tight wad of brown paper forced down. Then arrange sufficient green behind the flowers to show them off. Failing long-fronded ferns, the wild parsnip is most effective, the long young shoots of *Coprosma* being also very good. In the latter case, the flowers may be tied to these instead of using wire, in the same three places. Flowering grass, interspersed here and there, is also effective.

To use dahlias for table decoration, get a plumber to make a trough of galvanised iron, 3 feet long, 3 inches high and 2 inches wide. Paint this green in two coats. Lay the flowers along this trough in a single row, half fill with water when in position, and then intersperse with green to overhang and hide the edges. A trough like this may also be used on a shelf or high furniture, in which case it is necessary to hang a stick halfway down the centre, suspended by wire hooks at each end, to make the blooms stand up and overlook the edge. This is most effective if the trough is well hidden by overhanging green.

SUMMARY OF PROCEEDINGS OF FIFTEENTH ANNUAL CONFERENCE.

Held in the Chamber of Commerce Building, Christchurch, on Thursday, 27th January, 1938, at 10 a.m.

REPORTS.—The following reports were received and adopted:—

1. Executive (with Statement of Accounts).—See Journal of December, 1937.
2. Examining Board.—See Journal of December, 1937.
3. Action on Remits, etc., passed at the 1937 Conference.

ELECTION OF OFFICERS, ETC.—

President:—F. S. Pope, Esq., Wellington, was unanimously re-elected.

Vice-Presidents:—Messrs. T. L. Lancaster (Auckland), C. W. Corner (Hawke's Bay), T. Horton (Taranaki), J. G. MacKenzie (Wellington), P. Black (Palmerston North), Sir Theodore Rigg (Nelson), J. A. McPherson (Canterbury), D. Tannock (Otago), and Sir R. A. Anderson, C.M.G. (Southland).

Executive Committee:—Mrs. Knox Gilmer, Professor H. B. Kirk, Dr. W. R. B. Oliver, Dr. H. H. Allan, Messrs. A. H. Cockayne, J. A. Campbell, T. Waugh, W. K. Dallas, W. C. Hyde, W. S. Mason, F. J. Shanks, T. C. Brash, Herbert J. Peole, A. McMillan and E. Hutt.

Hon. Auditor:—Mr. J. L. Areus (re-appointed).

Hon. Fellow:—Mr. Thomas Horton (New Plymouth).

Honorary Member:—Mr. B. C. Aston (Wellington).

The President, after returning thanks for his re-election, delivered the following address:—

PRESIDENT'S ADDRESS.—“In a great many industries throughout the world, methods and practices arrived at after long and careful observation by highly skilled craftsmen, whose results were handed down from generation to generation but were never tested in the light of fundamental scientific knowledge, are to-day being subjected to thorough examination by men and women trained in the basic principles of science, familiar with the vast mass of accumulated scientific knowledge, well versed in modern scientific technique, and furnished with the highly specialised equipment needed in applying that technique to any problem requiring elucidation.

The application of this kind of critical analysis to the methods and processes of industry has revealed that, as was fully to be expected, most of these methods and processes are soundly based on scientific knowledge and principle; but it has also disclosed that some of them are not so based—that some are advantageous, but for reasons different from those hitherto assigned; that in some cases better or more economical methods and processes are available; and that in certain instances practices in use are not only uneco-

nomical but also actually harmful to the products to which they are applied.

These adverse disclosures, together with the introduction from time to time of new machines, have created, in a large number of cases, a regrettable contest between the old and the new—between the skilled, careful, and experienced craftsman, whose value to his industry has not hitherto been questioned, and the scientist or technologist, who, by bringing forward new methods or practices or introducing new machines, has not only undermined the craftsman's supposedly secure position, but has sometimes even threatened his very livelihood.

Much of this applies to-day, and perhaps to an increasing extent, to the great group of industries comprised within the term horticulture. Science and technology have already nosed their way into the horticultural industries at many points, and seem likely to penetrate further as time goes on.

Although it cannot be taken for granted that each one of these developments necessarily means improvement, there can, I think, be little or no doubt that horticulture as a whole is benefiting by the help and guidance it is receiving in the way indicated. Much of the credit for this kind of help and guidance belongs, as far as horticulture in New Zealand is concerned, to the Departments of Agriculture and of Scientific and Industrial Research, and to the Cawthron Institute. In this connection gratitude is due to the Government for having arranged for Mr. L. W. Tiller, of the latter department, to spend recently a considerable time in England familiarising himself with all the latest scientific and market information affecting the orchardist. His report, just issued, on the prospects of introducing into New Zealand the manufacture of unfermented fruit-juice, especially apple-juice, is very valuable in view of the phenomenal success lately of such products in Europe, and is an instance of how his added knowledge may benefit the Dominion.

I have referred at some length to this matter of the incursion of science into the realm of horticulture, and have done so for two main reasons—first, because I wish to emphasise that it calls for sympathetic understanding, and in some instances a measure of self-sacrifice, on the part of some older and more experienced men in the business; and second, because it makes clearer than ever the need for a sound general education, in addition to a thorough vocational training, for those who will in the natural course of events have to take charge of the industry in days to come.

Amplifying a little in regard to the first of these reasons, one may say that it is easy to appreciate that a man in middle age or older and who is recognised as a skilful and successful orchardist, nurseryman, vigneron, or market-gardener will not find it easy to understand and adopt new methods of working, perhaps with materials whose very names are strange to him, and that he will therefore be tempted to pooh-pooh innovations as “new-fangled notions” and

take up the stupid, "what was good enough for my grandfather is good enough for me" attitude. Let me appeal to such men of skill and experience to take a wide view of the situation and, if they cannot adapt themselves to new ways, to abstain at least from blocking the progress of those who can. To such respected seniors I would say:—"Your experience and judgment acquired during many years, are invaluable, and will doubtless see you through successfully. Do not envy younger men their newer methods, but encourage them to improve in every possible way the industry to which you have given your life's work."

Adverting to the second reason referred to—the need for those engaged in horticultural pursuits to have both a good general education and a sound vocational training—there is at present much cause for gratification that the examinations conducted by the Institute under the authority of The Institute of Horticulture Act, 1927, are being increasingly availed of by the younger generation of those working in the industry, and that in most of the centres of population there are now available the means of obtaining the theoretical instruction, and to some extent the practical training, required by those studying with a view to passing these examinations. On the other hand there is reason for regret that the proposed school of horticulture under the aegis of the Christchurch Domains Board is still unable, owing to the lack of the needed financial assistance, to do more than continue to function in its present unsatisfactory nuclear condition. The Institute hopes, however, to receive before long the welcome news that the Government has come to the rescue and enabled a proper start to be made. A further cause for regret is that the Wellington City Council is not yet equipped with the glasshouse accommodation without which it feels itself unable to undertake the training of students in its municipal gardens. Here is an opportunity for a wealthy Wellingtonian to confer a benefit not only upon young people desiring to be trained in horticulture, but also upon citizens and visitors generally, by donating or subsidising the cost of what is known as a winter garden.

All those in any way connected with horticulture in New Zealand will, I am sure, join in offering the heartiest congratulations to Sir Theodore Rigg, K.B.E., Director of the Cawthron Institute, upon the well-merited honour recently bestowed upon him by His Majesty the King. The whole of Sir Theodore's life until the present has been devoted to successful scientific work, first in the Department of Agriculture and later in the Cawthron Institute, and the horticultural industries in particular owe him a large debt of gratitude.

It was resolved, at this stage, to convey heartiest congratulations on this well deserved knighthood.

The Horticulture Division of the Department of Agriculture continues to render valuable service under its efficient and genial Director, Mr. J. A. Campbell. For many years past his efforts have been concentrated mainly upon the orchard industry, and especially

upon fruit for export. While this was undoubtedly the correct policy in the not very far-distant past when most of our orchardists lacked knowledge and experience of at least some branches of their business, it is open to doubt whether, in these days of much more knowledgeable growers and exporters, the time has not come for the Division to devote an increased proportion of its activities to horticulturists other than the producers of fruit for export. Perhaps a useful extension might be made by providing a visiting instructional service for those engaged in producing for the local market vegetables, bush-fruits, and flowers. Later, such a service might possibly be expanded to include the more promising of those engaging in horticulture for its amenity or cultural value.

The Dominion Conference on Tree-Preservation and Amenity Planting summoned in April last by the Government, and presided over by his Excellency the Governor-General and attended by the Hon. Mr. Parry (Minister of Internal Affairs) and the Hon. Mr. Langstone (Commissioner of State Forests), was representative of a great variety of interests in all parts of New Zealand, and demonstrated clearly that the thinking people of the Dominion are keenly alive to the value of conserving and planting trees, and, if only organisation and leadership are provided, are ready to do all that is needed in furtherance of the objects in view. It was decided by the Conference that the Government should obtain from the bodies represented their views upon the style of permanent organisation required, and should, when these views were received and collated, set up a temporary executive committee to recommend a suitable constitution for adoption. While one readily recognises that the Government has had its hands unusually full since the Conference took place, one trusts that, in view of the national importance of tree-conservation and amenity planting, the matter will be pursued at the earliest possible date.

Before concluding these remarks I want to again urge all concerned not to weary in well-doing in their support of the Institute, which I am sure is capable of a vast expansion of its usefulness to the Dominion as a whole. As I said when accepting the office of President last year, we must none of us consider what we can get out of the Institute, but rather what we can put into it. I believe the Institute suffers somewhat from the fact that, owing to the extremely wide scope of its objects, it is difficult to state briefly what it is or what it is trying to do. On the occasion of a recent deputation to the Prime Minister I thought it advisable to briefly explain ourselves to him, and the following is an abridged report of what I said:—

“The Institute was not a business concern but a voluntary body, whose aim was to focus and co-ordinate all kinds of efforts for the improvement of horticulture and the circumstances of persons engaged therein. Its membership was composed of amateurs, who gave of their time and money with no idea of

gain, and of individuals and bodies, monetarily interested in horticulture, but supporting the Institute mainly from altruistic motives. For the past ten years the Institute has been authorised by statute to conduct examinations in all branches of horticulture and to grant certificates and diplomas to successful candidates. At present there were over eighty registered students, and the examination candidates for the past two years numbered twenty-six and twenty-two respectively. The Institute was recognised by the Royal Horticultural Society of England as the controlling authority in New Zealand in all horticultural matters, and the Government, through the Department of Agriculture, granted it a small but greatly appreciated annual subsidy. Many bodies interested in horticulture, including municipalities, are affiliated to the Institute, and the Public Service Commissioner and most local-governing bodies take cognizance of its certificates and diplomas when filling positions requiring horticultural knowledge. It would thus be seen that the Institute was easily the most representative and responsible horticultural body in the Dominion."

And lastly I wish to thank the Dominion Executive, the Examining Board, and the Dominion Secretary and Treasurer (Mr. G. S. Nicoll) for the valuable work they have done during the year and for the courteous support they have extended to me in my efforts to be of some service in the cause of horticulture in New Zealand."

REMITTS ADOPTED.

EDUCATIONAL:—

1. That Syllabus No. 1 be amended by deleting the second paragraph thereof and substituting therefor:—Chemistry—as prescribed for the Intermediate Examination conducted by the Education Department.—Carried as recommendation to Executive Council.
2. That the scope of "approved gardens" be widened to include additional gardens.—Carried for reference to Executive Council.
3. That District Councils be urged to make every effort to secure the establishment or continuance of classes for horticultural students and that the Government be asked to subsidise the cost of obtaining lecturers or practical instructors for such cases.

DISTRICT COUNCILS:—

4. That, to permit District Councils to further increase their membership and activities, the capitation in respect of subscriptions be increased.—Refer to Executive Council for consideration.

MEMBERSHIP:—

5. That serious endeavour be made to exploit new avenues with a view to increasing the membership of the Institute, by—
 - (c) Making awards of recognition to those gardeners, amateur or

professional, whose services to horticulture—scientific research, cultural art or developmental—have been deserving of such awards—to be limited to two each year in each Province.—Refer to Executive Council.

6. That all City and Borough Councils employing gardeners be urged to affiliate with the Institute.

TREE PROTECTION:—

8. That the Government be approached with a view to preserving the trees planted by our pioneers or other historic trees throughout the Dominion.
9. That the attention of the general Government and of appropriate local authorities be drawn to the desirability of greater care being exercised in connection with the cutting back or destruction of trees adjacent to telegraph or high tension wires or along the proposed route of such wires.

FOREST PRESERVATION:—

10. That congratulations be extended to the Hon. Minister of Lands and Forests on the appointment of an Inspector of Scenic Reserves for each Island.
11. (a) That the Police Department be requested not to relax its vigilance with regard to the "Native Plants Protection Act, 1934."
- (b) That the Government be again requested to include in the foregoing Act a clause preventing the decoration of streets, halls, etc., contrary to the Act.
12. That the Government's attention be drawn to the desirability of preventing the planting of willows, poplars and other exotics in the construction or maintenance of roads within the limits of Scenic Reserves of Native Bush.

NOTE.—In the northern part of Taranaki, road cuttings have been planted with willows and these constitute a menace to the Bush Reserve they are in. *Konini*, *Veronica*, *Senecio* or *Olearia* is suggested for the planting of such cuttings.

GARDEN TRAINEES:—

13. That Municipalities, Nurserymen, Institutions and individuals possessing gardens suitable for training, be urged to give preference of employment to registered students of the Institute and to its Certificate or Diploma holders.

PLANT PATENTS:—

14. That in view of the number of plant patents granted in the United States of America, similar facilities should be available in New Zealand.—Refer to Executive Council.

OTHER BUSINESS.

CONDOLENCE:—

The President referred to the loss sustained by the Institute in the death of Sir Algernon P. W. Thomas, Professor Emeritus of Auckland University College, an Honorary Fellow, and a motion

recording the Institute's sympathy was directed to be conveyed to the relatives.

CONGRATULATIONS:—

Congratulations were directed to be conveyed to:—Miss Lucy M. Cranwell (Auckland Institute and Museum) on the award of the Loder Cup for 1937 and the Fellowship of the Linnean Society, also to Dr. H. H. Allan and Dr. W. R. B. Oliver on their appointment as corresponding Members of the Swedish Phyto-Geographical Society.

NOTICE OF MOTION:—

“That proxy voting be abolished from the Rules of the Institute.”—The motion was carried.

CONFERENCE DAY:—

Resolved: “That all associated bodies be requested to keep clear the date agreed upon by the Joint Committee for the Institute's Annual Conference.”

NATIONAL HORTICULTURAL WEEK, 1939:—

Resolved: “That this Conference recommends to the Joint Committee for its favourable consideration, the holding of National Horticultural Week, 1939, at New Plymouth.

COLOURED PLATES OF NATIVE FLORA:—

Resolved: “That the Executive Council be recommended to endeavour to induce the Government to produce a volume of coloured plates of native flora.”

SCHOOL OF HORTICULTURE:—

Resolved: “That the Conference requests the Government's serious consideration of the establishment of a School of Horticulture, on the lines already discussed, at as early a date as possible.

BANK'S LECTURE:—

The Bank's Lecture for 1938 was given in the Canterbury College Hall, by Dr. O. H. Frankel, Geneticist, Wheat Research Institute, Christchurch. The lecturer dealt interestingly with his subject and a copy of the lecture will appear in the next issue.

NATIONAL CONFERENCE ON HORTICULTURE:—

The eighth National Conference on Horticulture held in Christchurch consisted of the Annual Meetings of the Institute, the New Zealand Horticultural Trades' Association, the Horticultural Seedsmen's Association of New Zealand and the Association of Directors of Parks and Reserves.

The Hon. Sir R. Heaton Rhodes, President of the Canterbury Horticultural Society introduced His Worship the Mayor of Christchurch, Mr. John Beanland, who officially opened National Horticultural Week, 1938 and the National Flower Show.

This was held in the handy and spacious King Edward Barracks and provided the best display to date, which attracted a very large attendance.

REVIEWS.

THE R.H.S. DAFFODIL YEAR BOOK, 1937.

The R.H.S. Daffodil Year Book for 1937 covers a very wide range of subjects relating to this popular flower. The value of this annual publication is now generally recognised, containing as it does, a wealth of practical and scientific data and information, as well as many interesting articles on popular aspects of daffodil growing by writers, each of whom may well be considered an authority in his particular sphere.

That the enthusiasm for daffodil growing and seedling raising is probably as great in the Southern Hemisphere as anywhere, is evidenced by the prominence given to articles dealing with the flower in this part of the world. It is also interesting to note that practically every variety mentioned in the report of a special Daffodil Ballot, is obtainable here. This alone indicates that our growers are determined to keep in step with progress.

Chapters of general interest are "Very Early Daffodils" by F. A. Secrett, F.L.S., V.M.H.; "Very Late Daffodils" by Guy L. Wilson; "Daffodils in Tasmania" by C. E. Radcliffe; "Daffodils in New Zealand Gardens" by D. Tannock and "Daffodils in Old Irish Gardens" by Lady Moore.

More technical articles on "Narcissi Leaf Diseases" and "Bulb Treating Baths" provide the results of the latest research on these subjects.

The usual reports of the principal Daffodil Shows throughout England, Australia and New Zealand, are well done and a comparison of the exhibits shows that the very high standard is being well maintained in this country.

The importance of daffodil growing as an industry in Great Britain is exemplified in a chapter on "The Development of the Daffodil Industry in Lincolnshire." This can be gauged by the statement that, in 1935, Great Britain had 4,644 acres under cultivation for the growing of Daffodils; one grower mentions having a stock of $4\frac{1}{2}$ million bulbs of one variety alone!

The Year Book is excellently illustrated and the articles are written in a manner which will hold the interest of the reader. Much of the information therein is of a nature that will constantly tempt the keen grower to refresh his memory by reference to its pages.

And what pleasure and thrills we get from this "dipping in and refreshing" process!

—H. J. POOLE.

INSTITUTE NOTES.

PERSONAL: At the February meeting of the Executive, eight month's leave of absence was granted to Dr. W. R. B. Oliver, Director of the Dominion Museum, who has left on a world tour for further museum experience. The Executive Council extended its good wishes for a pleasant and profitable time and a safe return. During the absence of Dr. Oliver, Dr. H. H. Allan, Honorary Botanist, will act as Editor of the Journal.

EDUCATIONAL: Due to the completion of the Education Department's subjects, the following further passes have been recorded:— Junior Certificate: Messrs. M. G. E. Barnett, and J. A. Mashlan (Christchurch) and A. Heselton (New Plymouth).

The Director of Education's advice, that the Department's Correspondence School is prepared to give tuition in Chemistry and Agriculture to students, who lack facilities for attendance at night classes at Technical Schools, has been noted with gratification.

Mr. David Baker of Invercargill, an Institute Certificate-holder, has been congratulated on his appointment to the Parks Department at Manchester for two years, after which he will proceed to Kew for a similar period.

EMPIRE EXHIBITION OF PLANTS: At the recent meeting of the Executive Council it was resolved, on the motion of Mrs. Knox Gilmer, "That the Government be requested to arrange for an Empire Exhibition of Plants in connection with the New Zealand Centennial Exhibition."

COLOURED PLATES OF N.Z. FLORA: In connection with a suggestion from Conference, the cost of publishing an adequate number of coloured plates of native flora has been found to be too great. The Executive Council is therefore unable to see its way to recommend the Government to undertake such expenditure.

NATIONAL HORTICULTURAL WEEK, 1939 is to be held at New Plymouth and the Dominion Secretary attended a Public Meeting there, on the 15th March, called to make preliminary arrangements. An explanation was given of the various functions, programme, conditions and local requirements in respect of the Week. Officers were elected and committees set up but it is not yet possible to fix the date.

TARANAKI DISTRICT COUNCIL: The Dominion Secretary attended the monthly meeting of the Taranaki District Council's Executive and conveyed the Executive Council's greetings and good wishes. The monthly meeting of members, which followed immediately, was well attended. An interesting talk on Budding, Propagation, etc., was given by Mr. G. H. Huthnance, a Diploma candidate. A brief talk on Staging and Judging Points was given by the Dominion Secretary. These monthly meetings, which are in the nature of Circles, with free discussion, have been most successful.

FREDERICK JOSEPH NATHAN.

By the death of Frederick Joseph Nathan at Palmerston North on the 8th March, 1938, New Zealand loses one of its most prominent horticulturists who, as its President, served the Institute ably from the 13th August, 1925 until the 11th March, 1937.

His own well-tended garden could have served as a model for private gardeners but his horticultural activities were Dominion wide. One might mention his interest in research work, native flora, arboriculture, fruit-culture, nursery, seed and citrus industries, canning fruit and vegetables, internal and external marketing and other commercial aspects.

Mr. Nathan's charming personality endeared him to all. His courteous and tactful, yet withal firm, manner ensured the efficient and expeditious conduct of meetings. Quite apart from horticulture, however, he was a public spirited man in every phase of his many activities.

A photograph of Mr. Nathan appeared in the March, 1937, Journal and also an article regarding his resignation as President of the Institute.

Mr. Peter Black, Vice-President of the Institute at Palmerston North, was its representative at the funeral.

ALGERNON PHILLIPS WITHIEL THOMAS.

Professor Sir Algernon Phillips Withiel Thomas, K.C.M.G., M.A., F.L.S., F.G.S., Professor Emeritus at Auckland University College, who died at Auckland in December, was elected an Honorary Fellow of the Institute in March, 1936. His great work in science and education makes his loss a national one. He was a devoted and skilful gardener, deeply interested in our native flora and in daffodils, as is evidenced at his late home at Mountain Road, Epsom, Auckland.

To carry out a wish expressed by the late Sir Algernon, members of his family recently made a gift to the people of Auckland. Concerning this, the following letter was recently forwarded by the Dominion Secretary, to his son, Mr. N. R. W. Thomas, Auckland:—

“The Executive Council desires me to convey to your family, through you, its appreciation of the wonderful gift of native bush near Piha, including the historic Lion Rock.

This is indeed a fitting memorial to your famous father and his intense love of our native flora.”

LODER CUP COMPETITION, 1937.

There appears to be some misapprehension regarding the list of winners of the Loder Cup Competition, appended to the article in the December, 1937, issue of the Journal.

It was made clear therein, as in previous articles, that the nature of the competition had been altered from exhibits of native flora at horticultural shows to a new competition along the lines of the Nobel Peace Prize.

The list of winners under the original scheme of competition is:—

- 1929: Duncan & Davies Ltd., New Plymouth.
 - 1931: H. Bennett & Sons, Dunedin.
 - 1932: H. Bennett & Sons, Dunedin.
 - 1933: T. Waugh & Son, Wellington.
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