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Banks Lecture

THE HISTORY, DEVELOPMENT AND ACTIVITIES OF RESERVES DEPARTMENTS IN NEW ZEALAND.

(By D. Tannock.)

Most of the cities and towns in New Zealand were planned in Britain before any settlement took place, and the town planners of those days showed great judgment, enlightenment and foresight in reserving areas for various purposes. These were the church, education, municipal endowments, parks, gardens and recreation grounds but we are only concerned with the three latter.

The method of setting aside these reserves varied in different centres. In Auckland, they took the form of a domain and park; in Christchurch, a park, gardens and city squares. It is understood that it was intended to reserve a town belt, but this was reduced, by various means, to a very wide avenue, which was eventually planted with two rows of trees. In Wellington, it was a town belt, extending from the sea on one side to the sea at the other, which was to separate the city from the suburbs. In Dunedin, a town belt was reserved with several city blocks and smaller reserves, the city building lots to be a quarter of an acre each, and the suburban ones ten acres.

At first, when settlers were few and money scarce, these reserves must have been an embarrassment to the local authorities, but it is to the credit of the pioneers that in no, or at least very few, cases were they used for purposes other than those originally intended. Suggestions have been made from time to time to lease or sell portions of the Dunedin Town Belt for building purposes but, fortunately, the weight of public opinion was against such proposals, and they never got beyond the correspondence columns of the daily papers.

Though these reserves were ample for the cities as originally planned, the cities soon exceeded the expectations of the original planners—they extended beyond the city boundaries, absorbed the

suburbs, and even extended into the country, and the need for further reserves soon became apparent.

Fortunately, the foresight shown by the original town planners was inherited by those who followed, and the various city and borough councils have acquired areas for parks, recreation grounds, and children's playgrounds, both within the towns and beyond, from time to time, as the need became apparent or as the opportunity arose.

In many cases, these newly acquired areas exceed in extent the original reserves, still they are not keeping up with the original standard. For example, in 1908, the reserves within the city of Auckland were 255 acres, or 13 per cent. of the city area. In 1936, the reserves had increased to 900 acres, but they were only 4.6 per cent. of the new city area.

It is true that many of the more recently acquired reserves were quite unsuitable for building purposes. Some were swamps which had been filled in with house refuse, others were sand-hills, quarries or gravel pits, but, under the skilled direction of the Park Superintendents, and with the assistance of No. 5 and No. 13 Scheme labour, these have been developed into beautiful and useful parks and recreation grounds.

In the early days, the control and the development of the reserves and gardens was part of the City Engineer's Department, which was usually rather unfortunate but, as they increased in importance and usefulness, a separate department, known as the Reserves Department, was created. This is controlled by a Reserves Committee, which is directly responsible to the City or Borough Council, and supervised by a director, superintendent or curator, who receives his instructions from the town clerk.

The chairman of this committee, who has also considerable responsibility, is usually selected for her or his special interest in horticulture and recreation, and the harmonious association with the officer in charge is one of the features of civic control and management.

When I arrived in the Dominion, now nearly thirty-eight years ago, Mr. Goldie was in charge of the Domain and Parks in Auckland, Mr. Glen the Gardens and Reserves in Wellington, Mr. Taylor the Botanic Gardens, and Mr. Wickens the City Reserves in Christchurch, Mr. McBean the Gardens, and Mr. Osten the Reserves in Dunedin, and Mr. Edgington the Reserves in Invercargill.

They all appeared (to me then) to be fairly old men who had been in charge for some time and, though good gardeners, trained in private gardens and nurseries in the Old Land, they were not in touch with the modern development of parks, gardens and recreation grounds.

In New Zealand, this was about the beginning of a new era of civic progress—electric trams were taking the place of horse drawn ones, drainage schemes were being carried out, water supplies were being augmented and extended and hydro electric schemes were

being developed. Boroughs, which had grown up outside the original city boundaries, were amalgamating, and it was only natural that there should be a demand for the amenities of life, such as public libraries, art galleries, gardens, recreation grounds and playgrounds.

In the beginning, the larger reserves were laid out largely on the lines of gentlemen's estates in the Old Country. Trees, mainly exotics, were planted in avenues, groups, and as single specimens and, if any ornamental gardening was attempted, this consisted mainly of a few beds and borders near the main entrance, or the curator's residence.

At first, there were certain objections to setting aside portions of the reserves for certain definite types of recreation and games, but this gradually disappeared, and now it is recognized to be the legitimate function of a public body to provide for the recreation of the citizens of all ages and all tastes.

The activities of a Reserves Department can be conveniently divided into the care and management of:—(1) Botanic Gardens, (2) City Beautifying, (3) Recreation Grounds and Playgrounds, (4) Cemeteries and (5) Municipal Forestry.

BOTANIC GARDENS.

In the early days, areas were set aside in Wellington, Napier, Christchurch and Dunedin as botanic gardens, but they were botanic in name only and, with the exception of planting a number of trees, mainly conifers, willows and poplars, little was done to develop them along right lines.

For a number of years now, The Royal New Zealand Institute of Horticulture has been trying to get the Government to establish a National Botanic Garden, or to subsidize those already in existence in some way so as to enable them to devote more attention to purely botanical work but, so far, without any definite result.

A botanic garden should be an area set aside for the cultivation of as large and representative a collection of the vegetation of the whole world as possible. This collection should be correctly named and labelled, and arranged in some system according to either the cultural requirements of the various species and varieties, their geographical distribution, or their botanical affinities.

First of all, there should be a herbaceous section and, while the ordinary perennials, biennials and annuals can be grown in beds and borders, provision would have to be made for the alpine and very dwarf kinds by the erection of rock and scree gardens. Likewise, ponds and tanks would have to be provided for the aquatics and bog gardens formed on the margins of ponds and streams for moisture-loving kinds. A system of botanical classification should also, if possible, be attempted and, at least, the monocotyledons should be separated from the dicotyledons. A medicinal or herb garden would also be an added attraction.

The trees and shrubs should be planted in an arboretum, which

should be sufficiently extensive to allow the specimens to attain their full development. The shrubs would have to be planted in borders, which could be kept cultivated and free of weeds, but the trees would be grown in grass, which could be mown regularly.

The larger families of shrubs, such as the barberries, cotoneasters, heaths, azaleas, rhododendrons and brooms could be grouped together, but the smaller groups could be mixed.

The larger families of trees could also be grouped together e.g., there would be sections for conifers, hawthorns, pears, oaks, maples, willows, poplars and plums.

To provide for their peculiar requirements, the azaleas, heaths and rhododendrons should be planted in lime free soil, with a retentive subsoil, which would not dry out, and a certain amount of overhead shade should be provided. Along with these, herbaceous plants with similar requirements, such as lilies, primulas, *Meconopsis* and many of the smaller bulbous plants could be associated in a natural manner.

The arboretum should be the chief section of any New Zealand garden for, in addition to all the natives, we can grow in the open air all the trees and shrubs mentioned in Bean's books as being hardy in the British Isles, and a good many more. When once established, trees and shrubs require less annual maintenance than herbaceous and indoor plants, and this is a distinct advantage where funds are limited, and there is much to do.

A separate section should be set aside for Australian trees and shrubs, many of which are much hardier than is popularly believed. Quite extensive collections of gums and wattles can be grown, and there are ever so many beautiful and extraordinary looking shrubs to be grown such as banksias, callistemons, waratahs, etc.

Many South African plants can also be grown and, while the succulents would require shelter during the winter, the bulbs and such shrubs as proteas are perfectly hardy.

Naturally, the native garden should be a special feature, and the collection of all sections of indigenous plants as extensive and complete as possible. With the aid of a little bit of native bush of the hardier kinds to break the south west winds and ward off light frosts, it is possible to establish the more delicate kinds from the far north.

In Dunedin, the native garden would represent a complete botanic garden in itself, with a section for the trees and shrubs, another for the ordinary herbaceous plants and grasses, and another for the high alpine, which would be accommodated on a scree or modified rock garden.

In the tree and shrub section, botanical classification could be carried out to a certain extent. All the larger genera and groups could be brought together, such as veronicas, compositae, eumichaelias, coprosmas, ratas, myrtles, pittosporums, beech, panax, manukas, conifers, etc. Those represented by only one or two

species could be grouped in a mixed border, but the ordinary herbaceous kinds could be classified, celmisias and buttercups forming a special feature.

The serec devoted to the plants of the sub-alpine meadows and the high alpiners would be of the greatest interest to New Zealanders for, unless they climb up above the bush line, four thousand feet and upwards, they have little idea of the beauty of the native wild flowers or of their representative character. Under serec conditions, these plants can endure our lowland and coastal conditions, and though many are short-lived, they can be replaced by specimens from the hills or by plants raised from seed or division in the nursery.

For the tropical and sub-tropical plants, also those requiring special atmospheric conditions, such as ferns and succulents, glass-houses are necessary. These need not be large, though one large house for palms and tree ferns is impressive, but they will have to be heated to the right degree of temperature and maintained in the right atmospheric condition to suit the different sections of plants. In addition to a fernery and succulent house, there should be one for tropical plants, two for orchids and one for water lilies.

Included in the tropical section, there should be specimens of such plants as rubber, bananas, cocoa, coffee, sugar cane and the more important medicinal and fibre plants.

It is necessary to maintain a decorative section to attract visitors, and there should be one or two greenhouses in which there is a display of plants in flower all the year round brought on in successive batches.

This means considerable nursery work, but a properly equipped nursery, suitable for raising young plants and also for growing the pot plants when not in flower, is necessary.

A rose garden, in which are all the different types of the Queen of flowers, is essential and there should also be collections of the garden varieties of delphiniums, Michaelmas daisies, perennial phlox, iris, lilies, gladioli, dahlias, etc.

The flower garden should represent the latest ideas in this form of decorative work and the latest varieties of plants used for this purpose, as well as borders of herbaceous perennials.

No matter how interesting a collection of botanical species may be, there are more people attracted by colour and the various sections of garden plants which provide it. Displays of spring flowers, such as daffodils in the grass and bluebells or grape hyacinths in the borders, or lilies, kniphofias, primulas and Meconopsis grown in drifts in somewhat natural conditions, are always attractive and they bring the crowd.

In addition to growing plants for maintaining the display in the greenhouse and the flower garden, new plants raised from seed, or imported, should be propagated, with a view to their distribution to the various public gardens throughout the Dominion and also to enthusiastic amateurs.

One of the important functions of a botanic garden is the collecting, propagating and distributing of plants of horticultural interest or economic value.

The collection and distribution of seeds of native plants to botanic gardens and enthusiastic horticulturists in various parts of the world is most important, and in exchange, many seeds and plants are often received. There is great interest in the New Zealand native plants wherever they can be cultivated, and it gives one pleasure, when visiting botanic and other gardens in the Old Land, to be told that such and such a plant was raised from seed sent at some time.

The training of young people in the principles and practice of horticulture is a very necessary function of a botanic and public garden, for we have to either train men or acclimatize men trained in Britain.

At present, the most satisfactory method is to train men here as far as possible, and send them to the Home Country to obtain their scientific education and extend their experience. I have tried both methods, and both have been highly satisfactory.

CITY BEAUTIFYING.

It is said that the British are really a race of country dwellers and, if through force of circumstance, they have to live in towns, they set about making them as like the country as possible. They plant trees in the streets, plant parks and gardens, lay down lawns and form flower beds and borders wherever possible.

Most of the New Zealand towns were planned without any regard to the contour of the land with the result that there are streets too steep to be formed for traffic, banks and odd corners which all provide opportunities for beautifying. Many of these odd corners and steep banks have, in the past, provided the neighbourhood with convenient dumping grounds for all kinds of garden and other rubbish, and they usually support a luxuriant growth of docks and rough grass.

These can be beautified in two stages first, by removing that which is ugly and unsatisfactory and, second, by replacing it with shrubs or flowers.

It is important that the Superintendent should show his skill and taste in gardening to as many of the citizens and visitors as possible. If they will not come to the gardens, the next best thing is to take the gardens to them and, in the squares, open spaces and odd corners to mass flowering plants so that everyone passing in, out, or through the town, must see them. Everyone likes colour, and the stronger, bolder and more striking the better.

In New Zealand, we are very much indebted to the various Amenities and Beautifying Societies, which not only make valuable suggestions to the Local Authority, but also contribute a portion of the cost of the improvement.

The method usually followed is for the residents in the vicinity of the proposed improvement to contribute about one third of the

cost, the Society to contribute another third, and the Local Authority the balance, and also to undertake the upkeep afterwards.

With the No. 13 Scheme or Poppy Day men to provide the labour, the amounts contributed can be devoted to the purchase of plants or materials required, and a big improvement can be carried out for a small sum.

At first, the practice was to plant shrubs with a view to reducing the annual maintenance to a minimum, but these quickly grew up, and timid people were afraid to pass them at night. To prune them regularly was simply to cut off most of the flowers, which was not desirable. Now, the practice is to plant flowering plants and, though this imposes a considerable task on the propagating departments, for it requires thousands of plants and bulbs to fill the beds and borders twice a year or oftener, it is worth while.

In the earlier operations, the tendency was to enclose the reserves with iron railings, wire netting or barbed wire fences, which often cost more than the gardening portion of the improvement. Now these are removed and there is less damage done to the plants than formerly.

According to regulations, all streets have to be sixty-six feet in width but, with modern fast moving traffic, it is unnecessary to pave the full width, except in main arterial roads and shopping centres.

It is now recognized that, in residential areas, a width of twenty-two to twenty-four feet is sufficient for traffic, and this is as much as there is any kind of form and tar seal.

With a footpath of eight feet to ten feet in width next the sections, there are two strips of from sixteen to eighteen feet on each side, between the kerbing and the footpath. If this is levelled and sown down in grass, it provides a strip of lawn or parking in which trees can be planted. This effects a considerable saving in street formation and maintenance, improves the appearance of the street, and provides a safe and suitable position in which to plant trees. Once the grass is laid down, the resident is expected to mow the section opposite his or her property, and they not only do it willingly, in most cases, but they vie with one another as to who is to have the best lawn.

Planting trees adds further beauty to the streets and, though I am well aware of the difficulties with overhead wires, this can be done by planting kinds of moderate growth, or those which can stand regular pruning and still look like a tree.

It is not necessary to produce a forest, but something like one, and this can be done by planting the right kinds and keeping them within bounds. Naturally, a tree not only looks better when growing in grass, but it is much more comfortable there than in a gutter or asphalt footpath.

When selecting the trees, which should be deciduous, preference should be given to those which have attractive flowers, orna-

mental fruits or bright autumn tinted foliage and, if one can be had which combines all these attractions, that should be the major tree planted.

RECREATION GROUNDS AND PLAYGROUNDS.

In no other section of the work of a Reserves Department has there been a greater change than in the formation and maintenance of recreation grounds and playgrounds.

As I have already stated, when I came to the Dominion about thirty-eight years ago, the setting aside of portions of the public reserves for special forms of play and recreation was not approved, nor was it considered to be the function of a Local Authority to provide such facilities.

It seemed all right to lease the reserves for grazing horses, cattle or sheep, or to set them aside for hay cutting, but to form bowling greens, tennis courts, croquet lawns or children's playgrounds, and to provide for the recreation and enjoyment of the citizens was unthinkable.

However, there is no need to dwell unduly on the past; there is quite a different outlook to-day, and it is now recognized to be the legitimate function of a Local Authority, not only to provide sites for play and recreation grounds, but also to assist in their formation, with a view to physical fitness and happiness.

It has been said that physical development and physical fitness are the foundation of health which, in turn, is the foundation of happiness and contentment. A sound mind in a sound body should be the aim of everyone and, to secure this, play and recreation in the open air are most important.

It should be the aim of a Reserves Department to provide recreation facilities for all ages from the youngest to the oldest also to provide a varied range suitable for all tastes and fancies—for example, in addition to football, hockey and cricket grounds, there should be running and cycling tracks, open air swimming baths, bowling greens, tennis courts, croquet lawns, basketball grounds, golf links and children's playgrounds.

It is desirable that everyone, men, women and children, unless debarred by some physical infirmity, should take an active part in some form of recreation, rather than that they should stand or sit round a ground and watch twenty-two or thirty men taking part in a gladiatorial display. Gate takings are important in encouraging a game, but one feels that often too much importance is attached to them.

The best of all forms of recreation is gardening. It is said to be the purest of human pleasures, and the greatest refreshment to the spirit of man. In the original plans of New Zealand towns, each house was to have a quarter of an acre section, but this high ideal was soon departed from, and many cities and towns have developed slum conditions, with nothing more than a backyard. Where there is no garden at the home, provision should be made, in convenient allotments, for everyone who wants to garden, and

there should be no harm in devoting some of the reserves to this purpose. There would, however, have to be some control and direction, and only those who would make good use of their allotment should be considered.

There are several ways of creating an interest in games and recreation, and it was found that the first thing to do, after being approached by a few enthusiastic individuals, was to get a club formed, and to call a public meeting in the district concerned. These meetings were attended and advice given on how to set about having the desired greens or courts laid down.

There was usually a suitable site in view and, as this was often growing manuka, scrub, gorse, broom or rough grass, which had to be cleared or mown frequently, it was not difficult to convince the Reserves Committee that it could be improved and converted from a liability to an asset.

In recent years, the method followed when laying down a bowling green or croquet lawns was for the Club to provide the cost of supervision and all necessary materials, such as drain pipes, grass seed, boxing, etc. The labour was provided by No. 13 Scheme men, either on part or full subsidy, and the work was carried out under the supervision, and to the satisfaction of, the Superintendent of Reserves.

In every case, a rent is charged, about equal to the rates which would be paid were the greens on private property—£6 for a bowling green and £2/10/- for a tennis court or croquet lawn, with a rebate of the full amount for the first two years to allow the club to become established.

In this way, a liability is turned into an asset, and the ground is used for the purpose for which it was originally set aside.

The clubs erect their own pavilions, which, of course, become the property of the Local Authority. The rents from three tennis courts, three croquet lawns and a bowling green amount to £21, but this is not all. The City Council supplies the water required at 1/- per thousand gallons, the Electric Power and Light Department supplies light for the pavilions and power for the mower, the Gas Department supplies gas for boiling the kettle for afternoon tea, and the Drainage Board collects rates. The Transport Department also derives considerable revenue from conveying players from one district to another for their games and competitions. This system satisfies the players and appeals to the business instincts of the City Councillors.

With reference to charges, those mentioned are in force in Dunedin, but each Local Authority has its own scale. Some are less and some more.

The general custom is to create what are called recreation centres in each district, these consisting usually of one or more football, hockey and cricket grounds, three tennis courts, three croquet lawns, one bowling green and a children's playground.

The system followed in connection with the recreation grounds

is to make a charge for their use to the senior and lower grade clubs, and to allow the elementary and secondary schools free use. The City Council mows the grass, prepares the outfield and, now that No. 13 Scheme men are available, prepares the wickets for both matches and practice.

It is desirable, in addition to the district recreation centres, to have one or two larger central areas where matches can be played and sports meetings held. In Dunedin, the Oval, really a triangle, provides for six football and six hockey grounds for the winter, and sixteen cricket pitches for the summer. It is an inspiring sight to see upwards of three hundred young people of both sexes engaged in various games at one time on a Saturday afternoon, both in summer and in winter. Logan Park, which is a bigger area of reclaimed ground, provides for nine football grounds, six hockey grounds, three bowling greens, seven croquet lawns, and eighteen tennis courts. There are also two running tracks, and twenty cricket pitches.

To indicate the use made of these grounds; the elementary and intermediate schools and the University students play on Wednesday afternoons; the Training College Students and secondary schools on Thursday; the secondary schools again on Friday; the elementary and intermediate schools on Saturday mornings and the lower grade club matches are played early on Saturday afternoons and the senior grades later.

CHILDREN'S PLAYGROUNDS.

In the early days, there were numbers of empty sections in the towns; the streets were also comparatively safe and, with the imagination and inventive genius of youth, children could find lots of places and opportunities for play. Now, these sections are all built on and, with the advent of motor cars and trucks, the streets are no longer safe, therefore, other provision has had to be made. It is natural for a child to play, and a safe and convenient playground is its right.

Areas of not less than half an acre should be reserved within a quarter of a mile of every home. These should be grassed, and equipped with some simple devices, such as swings, see-saws and a horizontal ladder, with trees for shade and shelter, and seats for the parents. A child seems to desire to climb, to hang on by the hands or feet, and to move up and down and out and in. All these exercises are provided for by the devices mentioned.

Children get tired of playing always near their own backyard, and it is necessary to have a few major playgrounds, where their parents can take them at week-ends and holidays, and where Sunday school and other picnics can be held. We have in Woodhaugh Gardens, Dunedin, what may be considered an ideal major playground. It is twenty-five acres in extent, most of which is covered with native bush, which is ideal for playing cowboys and Indians,

and other equally strenuous combatative games. There are large lawns for ball games and races, several play devices which are well distributed, sand pit, paddling pool, pond for sailing model boats, swimming pool, gas rings, conveniences and shelter sheds. Naturally, this playground, which is convenient to the tram line, is very popular. Water, bush, sand and play devices seem to be the essentials for making children happy.

Hiking is another form of recreation of a very valuable nature and, fortunately, near most towns there are scenic reserves and plantations through which people can ramble, provided fires are not lit except at the prepared and authorized places, and that lighted matches or cigarette ends are not thrown down during dry weather.

Before leaving the recreation section, commendation should be given to some of the smaller boroughs for the way they have developed their domains and recreation grounds. There is one, for example, and there are others, where there is a football and cricket field, sports ground, picnic ground, tennis courts, croquet lawns, bowling green, swimming bath, children's playground and motor camp, with all the necessary and suitable stands, pavilions and conveniences. The whole is surrounded by shelter belts and shrubberies in an appropriate setting of flower beds and borders. Signs are erected on the highway, inviting motorists and others to visit this beautiful domain.

This suggests to me that a Reserves Department should indulge in a certain amount of mild propaganda. As a rule, newspaper reporters are only too keen to get a paragraph or two about anything special in flower or any new improvement carried out. A certain amount of advertising should be done over the air and in the local papers and tram cars, when there is any special display of flowers on, such as roses, azaleas, rhododendrons, natives, spring flowers, etc. Many people never think for themselves and it just requires a suggestion to bring them along in crowds.

CEMETERIES.

The cemeteries are sometimes called God's Acre, and deserve the best care of the community. The practice of enclosing each section with a concrete wall or iron railing is a most unfortunate and unnecessary one. In all the older cemeteries and in some of the new ones, there are neglected sections, due, perhaps, to the families having left the district, died out, or simply to want of thought. To keep the cemeteries reasonably tidy, all the neglected sections should be mown at least once a year, but it is a tedious job to mow an 8 x 10 or an 8 x 4 feet section, inside a wall or fence, with a scythe, and clip round the margins with sheep shears. As a rule, it is well on in the autumn before labour is available, and all through the summer, the place looks so neglected.

Recently, the Dunedin City Council passed a by-law prohibiting the enclosing of sections with a wall or fence. Monuments or head stones can be erected, provided they do not project more than

two feet on to the section. Flowers can be planted at the head and also in a border at the foot, dividing the sections from the foot-path. This enables a lawn mower or motor scythe to be run from end to end of the block, to keep the grass always tidy. The grass paths can also be kept mown and, by planting shrubberies to divide the cemetery up into sections, planting shrubs and flowers near the entrance and on all odd corners, the dull and doleful appearance of acres of concrete and monuments is avoided. The tidy and sensible appearance of the soldiers' cemeteries suggested this improvement.

MUNICIPAL FORESTRY AND TREE PLANTING.

The planting of trees on the reserves, waste lands and water catchment areas near towns and cities is a most important work, and one which should be carried out by a Reserves Department.

There are many reserves near the small as well as near the large towns, which are leased for grazing, at a rent of a few pounds a year. These are gradually deteriorating, gorse, broom and scrub being allowed to spread and, if there is any native bush, which there often is, it is gradually being killed or eaten out.

Were these reserves planted with suitable timber trees (a portion every year in a progressive scheme), all weeds would be kept down, the beauty of the reserves would be greatly enhanced, and they would be growing a valuable and necessary timber crop, which would in time not only repay for all that was expended on its creation, but show a handsome profit as well. If properly managed, there should be an annual cut, equal to the annual increment, and this could be used to reduce rates, or to provide useful public utilities, such as gardens, recreation grounds and playgrounds, also art galleries, baths, museums and public libraries, which are sometimes classed as luxuries.

These communal forests, as they are called, are a feature of many of the towns and villages on the Continent of Europe, particularly France, Switzerland, Belgium and Germany.

In France some years ago, the methods of working these communal forests were investigated by the writer and it was found that, in some, cutting was done every year. The trees to be cut were marked by an officer of the Department of Woods and Waters, a happy combination. These were cut down by the villagers. The logs were sold to the timber merchants by the Department and, after deducting a small percentage, the balance was handed over to the villagers to be used for providing public utilities, or to be divided amongst them. The branches, both large and small, were divided amongst the villagers for firewood, a portion being retained for heating the schools and other public buildings. Some of the towns which owned large forests were not only rate free, but they could declare a dividend.

It is also in the interests of the towns that they provide supplies of timber suitable for buildings, case making, and other manufacturing purposes near at hand, in view of the approaching exhaustion of all convenient indigenous forests, with the consequent increase in prices. Timber is a bulky commodity, even when broken down at the sawmill, and the cost of transport over considerable distances adds much to the price. By a judicious selection of the right kinds of trees for the soil and situation and with careful and skilful management, timber of good quality, suitable for all purposes, can be produced at a reasonable rate, close at hand.

In forestry, the work can be so planned that it is done mainly during the winter or early spring, when other works are slack, and there are usually a number of men unemployed. The pitting, planting, pruning, thinning and clearing fire-breaks would provide reproductive work for many men within reasonable distances of their homes. As a nursery for raising the necessary quantities of young trees would also be necessary, this would provide suitable work for the less fit members of the community. Really, all the work, except felling and handling the logs, could be done by men usually classed as unfit for hard work.

The use of forests for picnics, hiking and other recreation purposes is largely practised in European countries. One has in mind two extensive forests on the outskirts of Brussels, where motor roads and footpaths are formed through them. Here and there are partial clearings for tea-rooms, picnics, band rotundas, etc. The cost of upkeep is infinitesimal, compared with a British public park, where grass cutting and clearing has to be done. A crop of timber is being grown and, as a number of selected trees are cut and sold every year, a regular source of revenue is assured. The trees which are cut are replaced by natural regeneration, so that once a forest always a forest. From a hiking point of view, a forest is ideal. There is a pleasure in the pathless woods.

There are acres and acres of poor and waste land round Dunedin which are producing nothing but scrub, gorse and broom, but which would grow satisfactory crops of timber trees. There are numbers of No. 13 Scheme men simply putting in time doing jobs which are certainly not of reproductive value. Cheap labour, plus cheap land, plus reasonable management equal a crop of valuable timber, and a great improvement to the appearance of the landscape.

The planting of a water catchment area is also an important work, which can be carried out by a Reserves Department. An ample supply of pure uncontaminated water is most important, and, as most towns get their supplies from above, it is necessary for them to control the catchment areas.

Where this area is covered with native bush, which is ideal, there is nothing much to do, except to cut out elderberry and sycamores, which attack it from within, to clear *muhlenbeckia*, which attacks it from above, and gorse and broom, which attack it from

without. All these, which are fifth columnists of the bush world, if left alone, would soon destroy it.

Where the land has been used for agricultural and pastoral purposes, the farmer and his animals have to be put off to prevent pollution. Soon scrub, gorse and broom spread and the land becomes infested with rabbits, when conditions are worse than before. To clear the noxious weeds and keep down rabbits would be an ever recurring expense, and the catchment area would deteriorate. If planted with suitable timber trees, the scrub, gorse and broom are quickly suppressed, the rabbits are starved out, and the area is greatly improved for the purpose for which it was originally acquired.

It is not claimed that a forest brings about an appreciable condensation, though some foresters do, but it is claimed that it has a decided influence on the run off. When rain falls on open country, it spatters up the mud which it carries off, with all sorts of debris, into the creeks and rivers, silting up river beds, harbours and reservoirs and causing flooding on flat country.

We all know of the damage done in this and other countries through the unrestricted destruction of native forests, both by men and animals, and the thousands of pounds which are spent on flood protection works.

The place to tackle this problem is at the source of the trouble, and afforestation would at least minimize the danger. When rain falls on a forested area, the branches break the fall and, when it reaches the forest floor, it is retained by the layer of humus formed by the accumulation of leaves and pine needles which act almost like a sponge, and is allowed to trickle away gradually, or it sinks through the pervious layer until it reaches the subsoil, where it flows down, appearing as springs at a lower level. The forest thus sustains the flow of creeks and rivers, preventing flooding in wet weather, and maintaining the flow during a dry period, thereby obviating the necessity, to a large extent, for expensive dams and reservoirs.

Tree planting is not an expensive operation when carried out in a simple and efficient manner. The first consideration is to select the right kinds of trees for the different kinds of soils and aspects. Some municipal afforestation schemes were a failure at first through planting trees quite unsuitable for the position. There is no use planting valuable trees in positions where only the most hardy will survive. The trees must grow and grow well to be of any use.

The trees suitable for planting are *Pinus radiata*, one year old for open country, and two years for gorse and scrub infested areas—Douglas fir, *Pinus ponderosa* and larch, two years old, beech and poplars for fire breaks, three years old. These are the main kinds, but smaller lots of redwood, Western red cedar, oaks, alder, Lawson's cypress and *macrocarpa* have also been planted. The pits, which are nine feet apart, are made with the grubber in the autumn, and the planting is done with the spade in the spring.

Where conditions are favourable, planting can be done at any time, but where conditions are dry and frosts hard, early autumn or spring is the most suitable. As a rule, there is little blanking to be done the year after planting, unless the season is very dry, and the only expense incurred up to the tenth year is keeping the fire-breaks cleared, ploughed and cultivated. At ten years, the trees have completely met in, and all growth is suppressed. It is then the custom to go through the plantations, to prune them up as high as a man can reach with a saw or billhook, to cut out all suppressed trees and cut down any dead scrub, gorse or broom. Except around the margins, the branches are left on the ground to rot and, at first, the danger of fires is real. Soon the prunings rot away, and the plantations are then as near fire-proof as possible. Another thinning may be necessary in ten years but, by then, the trees cut are sufficiently valuable to pay for the operation.

At thirty years or upwards, *Pinus radiata* are fit to cut when, under ordinary conditions, at least 43,000 super feet of sawn timber and twenty cords of firewood can be expected which, valued at present day rates, are worth £557/10/0.

The cost of creating an acre of *Pinus radiata* is:—

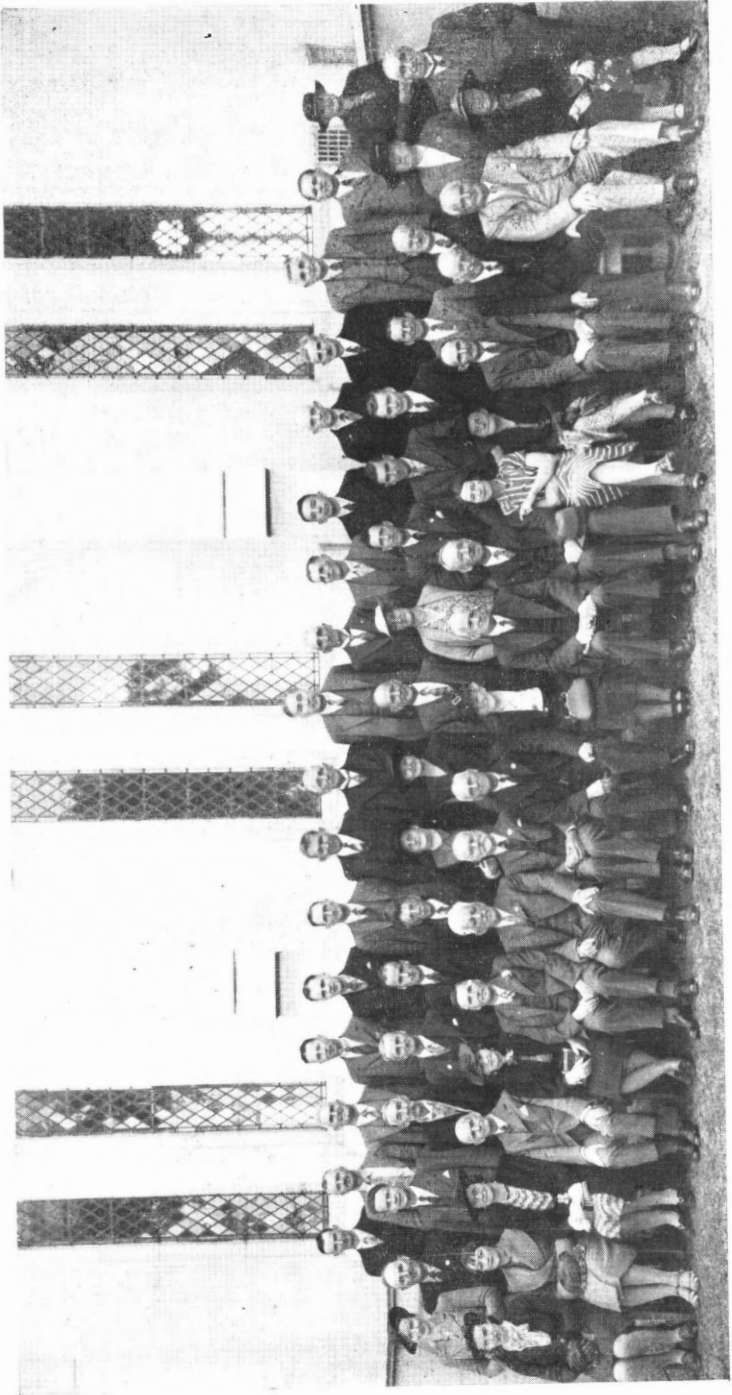
	£	s.	d.	Estimated cost of conversion—	£	s.	d.
Cost of Land	3	0	0	Cutting	70	0	0
Cost of Trees	1	10	0	Breaking	107	10	0
Pitting and Planting	3	0	0	Carting	22	10	0
Pruning	2	10	0				
Maintenance	3	15	0				
	<hr/>				<hr/>		
	£13	15	0		£200	0	0
	<hr/>				<hr/>		

Area planted over 13,000 acres.

* * *

From these somewhat rambling remarks it will be seen that the Park Superintendent or Director occupies a very important position in the community. He comes into contact with the citizens of all ages from the cradle to the grave—and has much to do with the health and the happiness of the people. He has to be a person of energy, skill, good taste, tact and personality and it is hoped that, in the future, when peace again prevails, the Reserves Department will become more and more important.

The cry is ever for more and better recreation grounds and playgrounds, more trees, shrubs and flowers and better kept gardens, and it is the duty of the man in charge to inspire the Chairman, if he or she is not already inspired, who in turn will influence the Reserves Committee and the Council, so that progress will continue from year to year,



NATIONAL HORTICULTURAL WEEK, 1941, OAMARU.

SUMMARY OF PROCEEDINGS OF EIGHTEENTH ANNUAL CONFERENCE.

The Eighteenth Annual Meeting and Conference of the Institute was held in St. Paul's Church Hall, Wear Street, Oamaru, on Thursday, 6th February, 1941, at 10 a.m.

ROLL CALL:—In addition to the President, Mr. F. S. Pope, the following were present:—

Auckland District: Messrs. H. A. Goudie and A. E. Rothville.

Hawkes Bay District: Messrs. M. R. Boothby, C. W. Corner, K. A. Merritt, B. Teague, and G. D. Wilson.

Taranaki District: Mr. and Mrs. T. Horton and Mr. V. C. Davies.

Palmerston North: Mr. P. Black.

Wanganui: Mr. P. Benefield.

Wellington District: Mrs. Knox Gilmer, Messrs. G. Clarke, Geo. Cooper, W. K. Dallas, E. Hutt, Wm. C. Hyde, J. G. MacKenzie, A. McMillan, G. S. Nicoll, L. V. Phillips, L. F. Sired and T. Waugh.

Nelson: Mr. A. White.

Canterbury District: Messrs. M. J. Barnett, D. Combridge, E. C. Gibbons, T. D. Lennie, J. N. McLeod, and J. A. McPherson.

South Canterbury District: Messrs. A. W. Anderson, and G. Knowles.

Otago District: Messrs. H. & H. O. Bennett, R. G. F. Fountain, G. A. Mitchell, J. W. Munro, M.P., P. Nelson, M. R. Skipworth, J. Tait, D. Tannock, and C. H. Wallis.

Southland District: Messrs. C. L. Burrows, —, Johnston, K. I. Robertson, W. Stapleton, and N. W. Young.

Westland District: Mr. R. G. Cooper.

APOLOGIES:—Messrs. A. H. Cockayne, W. A. G. Dentice, W. T. Goodwin, H. Kitson, Rev. J. E. Holloway, Mr. and Mrs. J. C. McDowall, Dr. W. McKay, Messrs. Herbert J. Poole, A. H. Shrubshall, and Mr. and Mrs. Percy Thomson.

MAYORAL WELCOME:—His Worship the Mayor of Oamaru attended the opening of the Conference. The President, Mr. F. S. Pope, welcomed the Mayor and expressed thanks to the people of North Otago for the warm welcome extended to delegates, and particularly by His Worship, who had expressed this in gracious words at the official opening of National Horticultural Week, 1941. It was not possible for him to praise too highly the Oamaru Public Gardens, which are a credit to the Curator, and to the Borough.

The Conference had met in serious, but not desperate times but right would triumph over wrong, and it depended on each individual as to how long it would be before the final victory would be won.

His Worship the Mayor had great pleasure in attending the opening of the Conference. Oamaru had had a wonderful uplift from the Show and his own impression of the official opening was that of the boy who remarked of a crowd that they had "nice faces" but that was to be expected as a good horticulturist is invariably a good citizen. If the delegates to the Week had enjoyed their visit, it had been an inspiration to Oamaru to have them.

MINUTES OF SEVENTEENTH CONFERENCE held at Wellington on Thursday, 1st February, 1940, (as circulated in the Institute's Journal of April, 1940,—Pages 69-80) were confirmed.

CONFERENCE, 1940, RESOLUTIONS AND REMITS—Report on action taken regarding these was adopted.

NOTICE OF MOTION: (N. R. W. Thomas) "That two Hon. (N.Z.) Fellows be elected each year until the maximum of twenty is reached." This was moved by the Chairman pro forma in the following form:—"Provided that the total number of Hon. (N.Z.) Fellows will not thereby be raised beyond twenty, Conference shall have the right to elect up to two in any one year." The motion was lost.

PRESIDENT'S ADDRESS: The President delivered the following address:—

HORTICULTURAL WEEK IN WARTIME.—The Executive Council of the Institute gave careful consideration some time ago to the view that it might be desirable to abandon for the present year, or for the duration of the war, the group of conferences, annual meetings, and other functions in connection with horticulture which has become widely known as horticultural week. It was, however, decided, in view of the importance of the horticultural industries as contributors to the food-supply of the people and in view of the general desirability of maintaining all normal activities not inimical to the national war effort, that the balance of advantage was largely on the side of continuing horticultural week for at least the present year, and, with the concurrence of the other bodies concerned, steps were, as you know, taken accordingly. This course has, I feel sure, the hearty approval of the Institute as a whole.

THE INSTITUTE'S LOYALTY.—At the opening of our conference in Wellington a year ago, a resolution of continuous loyalty to His Majesty the King and of determination to do with zeal and alacrity all that might be required of us by His Ministers in New Zealand towards bringing the war to a successful conclusion, was carried with heartfelt unanimity. I shall not ask you to pass a similar resolution to-day: that your sentiments have not changed except by growing stronger and deeper goes without saying.

HORTICULTURAL WEEK, 1940.—The whole of the functions comprised in the horticultural week of 1940 were carried out with gratifying success at Wellington during the week ending on 3rd February. The National Horticultural Show was held in the Centennial Exhibition Buildings, and was ably prepared for and man-

aged by a special committee representing the Wellington and Hutt Valley Horticultural Societies, the Horticultural Trades' Association, the Association of Directors of Parks and Reserves, and the Royal New Zealand Institute of Horticulture. This committee was under the presidency of that worker in the interests of New Zealand horticulture, Mrs. Knox Gilmer, and much of the conspicuous success of the show, from both the horticultural and financial points of view, is attributable to her efforts, backed up by those of the Secretary (Mr. A. J. Nicholls) and the members of the special committee. The week's proceedings were, as is the custom, inaugurated by a function which combined a civic welcome to the delegates with addresses by ministers of the Crown and with the official opening of the flower show. At this function the chair was taken by Mrs. Gilmer as president of the special committee, and the large hall was filled to capacity with the wonderful display of exhibits and the very large attendance of the public. The civic welcome was tendered by Mr. M. M. F. Luckie, Deputy Mayor of Wellington, and the ministerial addresses were given by the Hon. W. Lee Martin, Minister of Agriculture, the Hon. W. E. Parry, Minister of Internal Affairs, and the Hon. D. Sullivan, Minister of Industries and Commerce and Chairman of the Executive of the Exhibition. The official opening of the show was performed by Sir Harry Batterbee, High Commissioner in New Zealand for the United Kingdom. The President of the Institute briefly returned thanks for the civic welcome, and expressed on behalf of all present their appreciation of the quality of the speeches delivered by the ministers and the High Commissioner. On the following days the annual conferences and business meetings of the several bodies connected with horticulture were held, and much useful work was done at each of these gatherings. The annual Banks lecture was delivered by Professor H. B. Kirk, M.A., of Victoria University College, whose interesting address, entitled "Tree Ferns and Other Ferns," has since been published in the Institute's journal. Prior to the lecture an informal dinner was held, at which the Professor was the guest of honour. As a finale to the week a round of visits to notable gardens in the vicinity of Wellington, with an interval for a valedictory afternoon tea, was carried out with much success. I am sure it may be said that, as a whole, the horticultural week of 1940, with its incidental opportunities for visiting the Centennial Exhibition, certainly did not tend to lessen the popularity of these annual conventions.

EDUCATIONAL.—The Institute's Examining Board in its report for the year ended on 30th September, 1940, again gives ample evidence of the stimulating effect that the examinations conducted under the Institute of Horticulture Act have had upon vocational horticultural education in the Dominion. War conditions have, of course, hindered and will in the near future continue to hinder young men and women in their studies, whether horticultural or otherwise; but no one desires to see men of suitable age in any way

neglecting military training or service in order to complete their civilian studies, unless indeed they are thereby fitting themselves for special duties connected with the armed forces. Nevertheless a very satisfactory number of candidates took the Institute's examinations in November last, nearly all of whom obtained either complete or partial passes. In the diploma examination, which is of course our most important test, eight complete and ten partial passes were secured—a very creditable result. The total number of diplomas and certificates of all classes issued by the Institute up to the present has reached the impressive figure of 393. The J. A. Campbell Memorial Award was made during the year for the first time, the honour of being the initial winner going to Mr. J. W. Goodwin, of Christchurch.

The school of horticulture conducted on a necessarily limited scale by the Christchurch Domains Board is doing excellent work, and it seems a great pity that the comparatively small subsidies for initial and working expenses required to enable the school to be developed upon a sound basis have not been provided by the Government. It will be remembered that the late Right Honourable M. J. Savage, Prime Minister, in reply to a deputation from the Board and the Institute, made a very encouraging statement on this subject, and in fact gave what our American friends would call a near-promise that the funds would be forthcoming. It may be contended that the present is not a suitable time to ask for governmental expenditure for this purpose. Such a view, however, overlooks the fact that not only one, but probably several, practical schools of horticulture will be needed just after the war to assist in absorbing into civil life men discharged from the forces in a state of health necessitating outdoor but not too strenuous employment. A remit on this subject is included in the agenda of the conference.

RECREATIONAL HORTICULTURE.—You will be asked to give consideration to another remit advocating that leaders of the public in horticultural matters should stress, as opportunity offers, the special recreational value of gardening during wartime. The struggle now in progress for the mastery or freedom of the world brings heavy burdens and keen anxieties to us all; and if there exists a better pick-me-up for a mentally tired and worried man or woman than an hour's light work in the garden I have yet to learn what it is.

SEED INDUSTRY.—The Institute's 1939 conference set up a strong sub-committee to look into the question of the production of flower and vegetable seeds in New Zealand, and the valuable report that resulted from the labours of the sub-committee, of which Mr. W. K. Dallas, Director of the Horticulture Division of the Department of Agriculture, was chairman, was published in our journal of September, 1940, and has been very favourably received by those interested in the subject. The war conditions now prevailing have emphasized the need for further production of flower and vege-

table seeds in the Dominion, and have doubtless created a favourable opportunity for developing the marketing of our seeds in certain overseas countries. The Canterbury District Council, which brought this matter forward originally, has again submitted for your consideration a remit dealing with it.

HISTORIC TREES.—Dr. H. H. Allan, as Honorary Botanist to the Institute, has done valuable work in obtaining and collating information in regard to trees of historic interest throughout New Zealand. The results of his efforts in this connection will be found in our journals for June and September, 1940. The publication of such information will, it is hoped, assist in interesting the rising generation in the past of their native land, or, in other words, in deepening the influence of the New Zealand tradition.

AUCKLAND'S PARKS AND GARDENS.—I had the pleasure of spending last winter in Auckland, and of making better contact than ever before with its beautiful municipal parks and its charming gardens, both public and private. I suppose I had paid at least fifty hurried visits to Auckland previously, but this was the first time I had had leisure to poke about on foot and see things properly, and I was most agreeably surprised at the extensive and carefully tended horticultural adornment of the Queen City of the North. I should like to congratulate not only the municipal authorities but also the citizens generally upon what has been done in this way to enhance the natural beauty of the site of the City of which they are so justly proud. A special feature that should not be missed, though it lies well outside the suburban area, is the Waitakere Scenic Drive, which passes through some fine indigenous forest and commands many extraordinary pleasing views of the Waitemata and Manakau Harbours and their environs, and of the island-studded waters of Hauraki Gulf. In passing, I should like to mention the excellent work being done at the instance of Mr. F. A. Garry, Headmaster of the Northcote High School, in the direction of planting around the whole ten-acre block on which the school stands a broad belt of native trees and shrubs in commendable variety. Within a few years this belt will be of very great beauty, and of much educational value in a community where many of the young people cannot distinguish between even the better known species of our native trees and shrubs.

PLANT RESEARCH STATION, OWAIRAKA.—While in Auckland I took the opportunity of visiting the somewhat new station of the Plant Diseases Bureau of the Department of Scientific and Industrial Research, at Owairaka. It is under the direction of Dr. Gordon Cunningham, the head of the Bureau, sections of the work being controlled by, amongst others, Mr. J. C. Neill and Mr. W. D. Reid. As all three of these scientists were colleagues of mine in the Department of Agriculture some dozen years ago, I was soon made very much at home and given a greater share of their valuable time than I had any reason to expect, even as your President.

The area of the station is considerable, and it is already well provided with scientific and technical staff and with laboratories, glass-houses, and other equipment, though, naturally, Dr. Cunningham sees many directions in which the work could be extended with advantage were additional staff and other facilities available. Even now, however, the scope and variety of the investigations in progress is astonishing, and already a number of discoveries of great value to the horticultural industries—to say nothing of the agricultural and sylvicultural—have been made and published. I strongly recommend anyone interested in horticulture, and who has a morning or afternoon available for the purpose, to make a point of visiting the station. It is easy of access, being within two minutes walk of the terminus of the Owairaka tram line.

IMPORTANCE OF HORTICULTURE TO NEW ZEALAND.—I do not intend to quote statistics or make detailed statements about the importance of horticulture to the Dominion, but I do want to call attention to the facts that a much greater amount of labour and capital is employed in this connection than is generally realized, and that a huge production results from this utilisation of labour and capital in horticulture and the industries ancillary thereto. It is true that, apart from apples and pears, but little of the produce of these industries makes a direct claim on public notice by swelling the list of the Dominion's exports; but its immense contribution to the well-being and wealth of the community is in no way lessened by the fact it is almost entirely consumed locally. Let anyone who doubts whether this branch of production is as important as I have sought to indicate consider, first, the vast quantities of fruit and vegetables (including potatoes) that are produced for consumption by those who raise them, or by their friends, without coming upon the market at all. Then let him remember the enormous output of pip, stone, berry, and citrus fruits from commercial orchards; of vegetables of all kinds from market gardens; of grapes and tomatoes from glass-houses; of grapes and wine from vineyards and cellars; of nursery produce of all kinds, including shrubs and trees; of vegetable and flower seeds; of jams, pickles, sauces, and canned or bottled fruits and vegetables; of florists' flowers, foliage, berries, and pot-plants; and of other horticultural lines I may have inadvertently omitted to mention. Let him also bear in mind the earnings of those employed in all these kinds of production; in inspection, control, and research by government departments; and in fruiterers', nurserymen's, seedmen's, and florists' shops. Further, let him not overlook the employment of capital and labour by merchants, sawmillers, and others, of whose business no mean part sometimes consists in supplying horticulturists with manures, chemicals, implements, tools, packages, and other requirements of their industry. Finally, let him remember the extensive use that horticulture makes of transport by road, rail, and sea, and the hundred and one other ways in which it helps to keep the national pot

boiling. And if all these practical considerations are not enough to convince our sceptical friend, surely a few moments' reflection upon the aesthetic and recreational value of horticulture will complete his conversion.

BRAVO, LOWER HUTT!—Horticulturally, the Hutt Valley has made such a name for itself that it seems fitting that the conference should offer its hearty congratulations, through the Mayor of Lower Hutt, upon the facts that the jubilee of the borough is now being celebrated and that at the same time the town has attained to the dignity of a city, being the first suburban borough in New Zealand to acquire that distinction. The conference wishes the City of Lower Hutt the fullest prosperity during the centuries to come. I shall presently move to that effect, and that the Secretary should communicate with the Mayor accordingly.

HUTT CITY: Following on the reference in his address, the President moved that Conference's congratulations along those lines should be conveyed to Hutt City through His Worship the Mayor and also appreciation of the latter's generous gift to the new City and to the Dominion of the Fernery, with its representative collection of ferns.

Mr. Dallas considered the gift of the Fernery and ferns a magnificent gesture, which would continue to grow in interest as compared with a memorial in stone.

Executive and Examining Board Reports and Statement of Annual Accounts, as published in the Journal of December, 1940, were adopted on the motion of the President, after the passing of a resolution that they be taken as read.

Election of Officers: President:—On the nomination of the Executive Council, Mr. F. S. Pope, Wellington, was unanimously re-elected President for the fifth successive term.

Vice-Presidents:—Prof. T. L. Lancaster (Auckland), Dr. W. M. Thomson (Taranaki), Messrs. C. W. Corner (Hawkes Bay), P. Black (Palmerston North), J. G. MacKenzie (Wellington), Sir Theodore Rigg (Nelson), M. J. Barnett (Canterbury), G. E. Knowles (South Canterbury), D. Tannock (Otago) and Sir Robert A. Anderson, C.M.G. (Southland).

Executive Council.—Mrs. Knox Gilmer, Dr. H. H. Allan, Messrs. T. Waugh, J. A. McPherson, J. C. McDowall, W. T. Goodwin, Wm. C. Hyde, E. Hutt, A. McMillan, A. White, H. L. Esau and representatives of various Government Departments and National Bodies and Societies, viz.:—

New Zealand University:—Prof. H. B. Kirk.

The Royal Society of New Zealand:—Dr. W. R. B. Oliver.

The Director-General of Agriculture:—A. H. Coekayne.

The Director of Horticulture:—W. K. Dallas.

The Director, State Forest Service:—A. R. Entrican.

New Zealand Fruitgrowers' Federation:—T. C. Brash.

President, New Zealand Horticultural Trades' Association (Inc.):—J. N. McLeod.

Horticultural Seedsmen's Association of New Zealand:—Geo. Cooper.

New Zealand Forestry League:—A. Leigh Hunt.

Forest and Bird Protection Society of New Zealand:—Capt. E. V. Sanderson.

National Daffodil Society of New Zealand:—H. J. Poole.

New Zealand Alpine and Rock Garden Society:—Hope B. Gibbons.

Wellington Beautifying Society:—H. L. Cummings.

HON. AUDITOR: Mr. J. L. Arcus was reappointed with a vote of thanks and appreciation of last year's services.

ELECTION OF HON. (N.Z.) FELLOW: Four names were submitted to the Conference—one to be elected—and the Conference Ballot resulted in the election of Mr. Thomas Waugh, Hutt City.

ELECTION OF HON. (OVERSEAS) MEMBER: Lady Rockley, C.B.E. of Lytchett Heath, Dorsetshire, England was elected.

REMITTS ADOPTED.

Educational:—

- (1) That the words "Land surveying and garden design" be added to Syllabus No. 2, Section 1, Paragraph 2, headed "Practice of Horticulture."—Carried as a recommendation to the Executive Council.
- (2) That District Councils, not already doing so, be recommended to arrange a syllabus of lectures on Botany and Plant Protection and also on Special Subjects, by experienced practitioners.—Such lectures have already been arranged at Christchurch and New Plymouth.
- (3) That the necessity for the establishment of a School of Horticulture be again impressed upon the Government, and further that the value of such schools, as centres of training of returned soldiers in horticultural pursuits, be urged upon the Government.
- (4) That the written portion of the examination for the Diploma in Horticulture be divided into two sections, and held on different dates.—Carried as a recommendation to the Executive Council.

Membership:—

- (5) That all holders of the Institute's Intermediate Certificate and Diploma be urged to join its membership.
- (6) That all City Councils and Borough Councils, and other local authorities employing gardeners, be urged to affiliate with the Institute.

Remits:—

- (7) That, in future years, the time for the receipt at headquarters of proposed remits be fixed by the Executive, for such a

date as will enable all such remits to be circulated to District Councils prior to Conference.

Road Beautification:—

- (8) That this Institute recommends to Government the placing of Roadside and Rural Beautification on a national basis and that the Institute offers its full support.

Seed Industry:—

- (9) In view of the increased importance of seed production in the Dominion, owing to world conditions and the demand for certified seeds, that steps be taken to provide facilities for carrying out a scheme of training for those wishing to qualify for (a) the Seedsman's Certificate of the Institute and (b) seed-growing as a career.

Recreational Horticulture:—

- (10) That all leaders in horticulture should stress the recreational value of gardening, especially during war-time.

Native Flower:—

- (12) That, through their representative in New Zealand, the Canadian Government be approached with a view to naming one of the corvettes being built in that Dominion for naval patrol purposes, after the national flower of New Zealand—Kowhai.

Note:—It will be noticed that these corvettes are being named after wild flowers, and it is felt that it would be an inspiration to horticulturists in New Zealand to know that one of their most beautiful wild flowers was honoured alongside the equally charming ones of the Canadian countryside in such a good service.

Government Grant:—

- (13) That thanks be conveyed to the Minister of Agriculture for his assistance in continuing the annual grant of £100, which is much appreciated, especially for its value in forwarding the educational work of the Institute.

Thanks:—

- (14) That thanks be conveyed to the Hon. W. Lee Martin, former Minister of Agriculture, for his services in the past, and also to the Department of Agriculture and its Horticulture Division, for their continued assistance to the Institute.

Care of Public Property:—

- (15) That, in view of the fact that vandalism in public reserves, beaches and national parks, is still common among young people, the Minister of Education be requested to draw the attention of all teachers to the desirability of including a study of conservation in the school course in citizenship.

Note:—It is felt that special attention should be paid to such a topic as "The care of public property," immediately prior to the school vacations. Whilst not unmindful of the large amount of instruction, along these lines, already being

given by some teachers, it is urged that all teachers should be encouraged to make such instruction universal.

National Botanic Garden:—

- (16) That the Government be recommended to establish a National Botanic Garden, somewhere in the Dominion, as soon as the times become suitable.

Congratulations:—

- (17) That congratulations be conveyed to the Hon. J. G. Barclay on his appointment as Minister of Agriculture together with the Institute's best wishes for a successful period of office.

Tree Tags:—

- (18) As the public, in general, demand that all fruit trees, roses, etc. be labelled clearly, stating the variety, etc. and, as the British price has increased considerably since 1938, the year on which import licenses are based, the quantity of waterproof tree tags now being imported into New Zealand, is not nearly sufficient for normal requirements. The Horticultural Seedsmen's Association's Conference requests, therefore, that the Institute should support its application to the Department of Customs and of Agriculture—Carried.

LAING, R. M.:—It was suggested that a vote of appreciation be forwarded in respect of the work that Mr. R. M. Laing had done for the benefit of horticulturists and students in connection with our native flora—Resolution of appreciation was directed to be conveyed.

NATIONAL HORTICULTURAL WEEK, 1942: It was resolved that Hawkes Bay should be the venue of National Horticultural Week, 1942.

THANKS: A vote of thanks was passed to (a) the Mayor for extending a civic welcome to delegates attending National Horticultural Week, 1941, (b) Hon. J. G. Barclay, Minister of Agriculture, for officially opening National Horticultural Week and the National Flower Show, 1941, (c) the National Horticultural Week and Flower Show Committee, 1941, for running the Week and Flower Show so successfully and making such complete arrangements for the various conferences, etc., (d) the Ladies' Committee and other bodies which had entertained visiting ladies and delegates during the Week and (e) the Press and all others who had contributed to the success of National Horticultural Week, 1941.

On the motion of Mr. M. J. Barnett, a vote of thanks was passed to the President for conducting the Conference in such an able manner.

BANKS LECTURE.

The Bank Lecture for 1941 was delivered in St. Paul's Church Hall, Wear Street, Oamaru, by Mr. David Tannoek, Dunedin. The subject of the lecture "The History, Development, and Activities

of Reserves Departments in New Zealand" was dealt with most interestingly and was well illustrated with coloured films operated by Mr. J. L. M. Tannock. A copy of the lecture appears in this issue.

NATIONAL HORTICULTURAL WEEK, 1941.

The foregoing meeting formed part of the proceedings of the Eleventh National Horticultural Week held in conjunction with the New Zealand Horticultural Trades' Association, the Horticultural Seedsmen's Association of New Zealand, the Association of Directors of Parks and Reserves and the New Zealand Florists' Telegraphic Exchange. On Tuesday, 4th February, 1941, at 2.30 p.m., Mr. P. W. Hargreaves, President of the National Flower Show, 1941, introduced His Worship the Mayor of Oamaru, Mr. K. Familton, who extended a civic welcome to National Horticultural Week, 1941, delegates and to the Hon. J. G. Barclay, Minister of agriculture, who officially opened the Week and the National Flower Show, 1941. On the Tuesday and Wednesday of the Week the tenth National Flower Show, held under the auspices of the bodies mentioned above and the National Flower Show Committee, 1941, was held in Mr. G. T. Gillies' Building, Thames Street, Oamaru. The large halls were well filled with fine displays and the Show attracted a large attendance.

The annual meetings of the national bodies mentioned followed after the first day of the Show and delegates, including the ladies, enjoyed many pleasant outings and social functions including an Official Dinner.

INSTITUTE NOTES.

PERSONAL:—The President mentioned, at the March meeting of the Executive Council, that the Dominion Secretary (Mr. G. S. Nicoll) had been absent from duty for several weeks in March, through an illness contracted since National Horticultural Week, 1941 and members expressed their pleasure at his recovery.

R.H.S. COLOUR CHART:—The first volume of the Royal Horticultural Society's Colour Chart has been presented to the New Plymouth Public Library by the Taranaki District Council of the Institute on condition that it is to be used for reference only. It is proposed to hand over the second volume, when available. The Executive Council's appreciation of this action has been expressed.

EXAMINATIONS, 1940:—The following passes have been recorded:—Junior Certificate: L. W. Claridge (Christchurch); Miss D. Hosking (New Plymouth); L. F. Smith (Christchurch) and O. Winn (Auckland); Intermediate Certificate: G. D. Hyde (Christchurch); C. Lannie (Wellington) and Miss M. M. Lysaght (Dunedin); Diploma: M. G. E. Barnett (Lower Hutt); M. R. Boothby (Dannevirke); A. M. W. Greig (Auckland); Miss K. M. O'Brien (Palmerston North); A. L. Poole and J. C. Stirling (Wellington).

J. A. CAMPBELL MEMORIAL AWARD:—The second J. A. Campbell Memorial Award of approved books, to the most successful Intermediate student in the 1940 Examination, has been made to Mr. G. D. Hyde of the Christchurch Botanic Garden, who has since transferred to Lower Hutt.

CONFERENCE REMITS, 1941:—The Executive Council's meeting in March was unanimous that the utmost publicity should be given to Remit 11 "Recreational Horticulture" and Remit 15 "Care of Public Property"—vide Conference Summary in this issue.

In acknowledging Remit 15, the Hon. Minister of Education states:—"I have to say that I approve the suggestion that the study of conservation be included in the school course in citizenship.

In this connection suitable instruction is already being given in a number of the schools. The attention of all teachers will, however, be drawn to the need for featuring this important topic in the lessons in civics.

It is my wish that the schools should take an active part in promoting measures for the protection of public property."

SECRETARY'S REPORT presented at the Executive Council's March Meeting, dealt with National Horticultural Week, 1941, Oamaru, and visits thereafter to Dunedin, Christchurch and Invercargill, where he attended a meeting of the Southland District Council.

Mr. J. Speden's famous garden at Gore, with its wonderful associations of native and exotic trees and shrubs and a fine collection of rhododendrons, was greatly admired but the owner, unfortunately, was away from home through illness. This call was made

possible through the kindness of Mr. K. I. Robertson, Southland District Secretary, who met the train at Gore with his car.

Parks Superintendents were contacted at all places visited and members and students, where possible. At Invercargill, Mr. W. Stapleton, Acting Superintendent, devoted a whole morning to showing over the Reserves and other activities of the City Council.

At Christchurch, on the return journey, Mr. M. J. Barnett, Superintendent of Parks, Reserves and Plantations enabled a visit to be made, during the morning, to the City Council nursery, and he also gave up the afternoon for a visit to Victoria Park, where the successful establishment of natives and other associations on steep rocky hillsides is most impressive. The contrast between the horticultural conditions of the Park and those of the Garden City of the Plains is astounding.

COLD STORAGE OF ROOT VEGETABLES.

The following is an extract from a letter forwarded by Dr. W. M. Thomson of Hawera, who is Vice-President of our Taranaki District Council:—

“One matter which I think the Institute might make public in the immediate future is the storing of root vegetables in cold storage, where that is available.

My parsnip crop two years ago was poor and finished early, so I bought a sugar bagful at the local mart and put it in the freezer. They kept perfectly and roasted like caramel. That success tempted me last year to extend the idea so I put in bags of parsnips, swedes and field carrots (Sinclair's Champion). All were most successful; the parsnips as before and the swedes developed sweetness and were more tender. I was not sure how carrots would keep, so halved the lot. Of those out of the freezer, only half could be used, the others rotted. Those in the freezer lasted in excellent condition till we were able to use the thinnings of the spring crop: moreover they never developed the over-strong flavour so many of the garden types develop late in the season.

My bags were put into the ice-room of the local West Coast Refrigeration Company—very little use is made of this during the winter and the roots were never actually frozen till later on. The charge made was quite reasonable and the experiment largely solved the problem of vegetables for us in the winter and early spring.

I thought this might be the subject of some timely advice to the public from the Institute.”

RAILWAY STATIONS GARDEN COMPETITION.

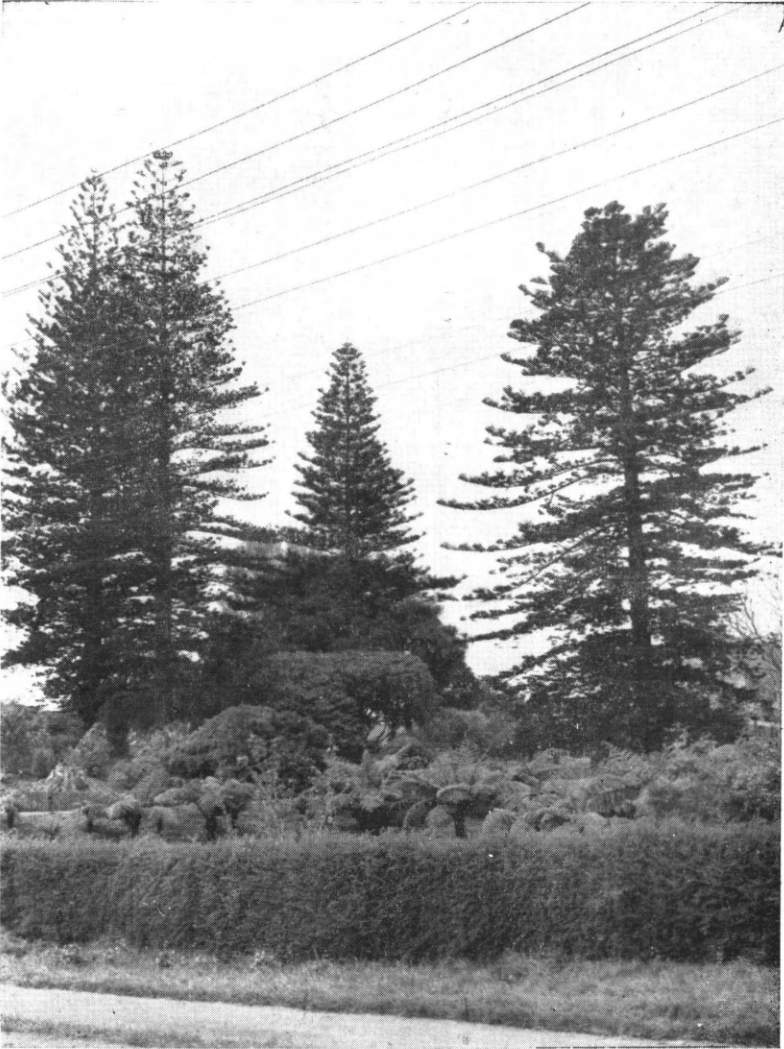
Introduced by Mr. K. I. Robertson, Secretary of the Southland District Council, the Dominion Secretary and Mrs. Nicoll recently visited a show staged by the Garden Circle of the Southland Women's Club, when the above competition was mentioned and particulars were requested and are now appended.

"The Garden Circle endeavours to encourage the staffs of the Railway Stations in Southland to make gardens on the Railway Stations.

Credit for this idea is due to the late President of the Club, Mrs. W. T. Hazlett, who presented a cup, which was to be held for a year by the Station with the best garden. When the cup is awarded, a cash prize of £1/10/0 is presented also and, when the judging is completed for the following year, a miniature cup, suitably inscribed, is handed over, and the name of the station is engraved on the large cup. The garden gaining second place receives a cash prize of 10/6 and frequently small cash prizes are awarded to other gardens showing promise.

When judging the gardens, points are given for layout, colour effect, promise of rotation for seasons, neatness and general appearance. When possible, the gardens are visited twice in the year but this is not always feasible.

Owing to the difference in size of the gardens, it has been found necessary to divide them into two classes—Section 1 for the larger gardens and Section 2 for the smaller ones. The same conditions, including prizes, apply to both competitions.



HISTORIC TREES.
Norfolk Island Pines at New Plymouth Girls' High School.

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