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Dominion Secretary:

K. J. Lemmon, A.P.A.N.Z., A.C.I.S., Suite 1, First Floor,
British Sailors' Building, 10 Brandon Street, Wellington.
(P.O. Box 450.)

Please forward correspondence re this Journal and articles for publication to the Editor. All enquiries concerning advertisements are to be addressed to the Editor.

Editor: J. F. Gover, B.Com., F.R.I.H. (N.Z.)
74 Southampton St., Christchurch 2. (Telephone 39-325.)



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EDITORIAL

LITTER — LARGE AND SMALL

ALL WHO ATTENDED THE 1969 DOMINION CONFERENCE received much food for thought. Recently an Anti-Litter Campaign was conducted throughout New Zealand and no thinking person would question the necessity for it. There is also constant concern about recurrent vandalism. Neither of these are new problems but are we tackling them at the right levels? Those who heard Mr M. R. Skipworth deliver the Banks Lecture, 'Landscape and the Tourist Industry', at Invercargill could not but realise that they are manifestation of a larger problem, 'The Unseeing Eye'.

Is the rubbish discarded in public places really any worse than the reeling telephone and power poles, ugly fences and unsightly baches, holiday cottages and temporary buildings defiling our landscape? Can we expect eyes inured to such sights to see the ugliness of an empty cigarette pack, fruit can or beer bottle discarded on the roadside? Mr Skipworth drew our attention to despoliation at even higher levels. The ravaging of priceless scenic assets to provide better roads and cheap power. No one would deny that both are a necessity for modern living but surely we do not have to destroy wonderful scenery just to provide a cheap job, when a correct approach would enable New Zealanders and our guests to enjoy the best of both worlds. Another speaker drew attention to the inadequate amounts provided in the estimates to restore normality to scenery disturbed by the alteration of lake levels for power schemes. Damage caused by large public and private works cannot be made good by mere token payments but it is obvious that even from the most materialistic point of view that money spent on proper restoration will be money well spent.

The National Development Council has drawn our attention to the importance of the Tourist Industry to our future economy and surely it is good business to maintain our natural tourist assets in the best possible condition.

Mr S. C. Challenger of Lincoln College at an earlier session spoke on 'Landscape Architecture. A New Profession' and his address too was relevant. Landscape Architecture of course has been practised for

very many years in Europe and North America and the establishment of this new course at Lincoln College does promise that a more enlightened approach to our landscape problems is in the course of adoption. Previously we have called in the landscape expert to remedy past blunders whereas this practitioner should be a member of the team from the very inception of any scheme involving our landscape. He should be there even before pen and pencil are put to paper.

From this you may see that we may have our cake and eat it as long as we are prepared to pay for more than one cake. The Royal N.Z. Institute of Horticulture has backed the Anti-Litter legislation but realises that this deals with but one aspect of a larger problem, 'The Unseeing Eye'.



NATIONAL ROSE SOCIETY TRIAL GROUNDS FOR PALMERSTON NORTH

IN CONJUNCTION WITH the Parks and Reserves Department of the Palmerston North City Council the first N.R.S.N.Z. Trial Ground is being established at The Dugald McKenzie Rose Gardens, The Esplanade, Palmerston North.

The purpose of the trial grounds are to evaluate new roses introduced in or into New Zealand and make awards to roses of merit whether seedlings or sports. Trials are to be for a period of two years and awards may be made in either year. Six bushes or two climbers are to be submitted for each variety under trial. (For this year three bushes of each variety are required.)

Judging will be conducted by both a local panel and a National/International Panel. The local panel will make weekly observations of the roses under trial and will award points to 80% of the possible total. Initially eleven chains of beds will be provided and will hold ninety-six varieties and these beds may be extended if necessary.

This is a good start and we hope that these Trial Grounds will be the forerunner of other Rose Trial Grounds in other areas and that Trial Grounds will also be established for many other ornamental plants.

If you are interested in having a new rose seedling or sport tested we suggest that you communicate with

Mrs C. Watt, 15 Piper Place, Palmerston North.
The Secretary, Rose Trial Grounds Committee,

THE BANKS LECTURE, 1969

LANDSCAPE AND THE TOURIST INDUSTRY

By *M. R. SKIPWORTH, B.Sc. (Forestry), N.D.H., A.H.R.I.H. (N.Z.)*
Wanaka

Two hundred years ago there sailed along these shores the great botanist, Joseph Banks, in whose honour the Royal New Zealand Institute of Horticulture arranges this annual lecture. As a young man of considerable wealth, who was intently interested in the natural sciences, Banks was able, at his own expense, to provide a well-equipped party to accompany Cook in the "Endeavour" on his first voyage of scientific discovery to the South Seas. Banks had selected to accompany him a botanist—Dr. Solander, a Swedish pupil of the celebrated Linnaeus, also three skilled draughtsmen and artists, a secretary and four servants.

The popular conception of the present-day New Zealander is that they discovered a land clothed in its primeval plant mantle, barely touched by perhaps a thousand years of Maori occupation. The Maori was a hunter and fisherman, who conserved the habitat of the birds which provided him with such an important portion of his food supply. His only important cultivated crop was the kumara and the growing of this was confined to the warmer areas, and it made relatively small demands for the clearance of the existing forest cover. This popular idea that the Maori made very little impact on the original forest and plant covering, however, is entirely erroneous for, by the use of fire, he brought about extensive changes in the plant covering of the country, particularly in the drier eastern areas of both Islands. The earliest voyagers to New Zealand recorded sighting fires, including one inland from Saddle Hill, Otago, obviously lit by natives, possibly for clearing growth from their travel routes. This Maori destruction of the bush cover was considerably accelerated after their contact with Europeans and it is possible that by 1850 perhaps almost half of the original bush cover had been removed, and that during the next one hundred years over half of the remainder was to be destroyed by European settlement. Most of this removal of forest was inevitable, in order to provide much of our farming land, on which our prosperity is founded, but undoubtedly it proceeded too fast and too far—there being much unnecessary and uneconomic clearing, with consequent serious erosion and loss of scenic beauty, resulting in the impoverishment of much of our landscape. There

was always a public outcry for the preservation of the best of our bush scenery, but comparatively little was accomplished, because of the insatiable demand for land for farming and timber for sawmilling.

From an article on "Some Social Responsibilities of a Young Community" the following quotation is of interest:

"We make much of our scenery and rightly so. It is our best asset, even financially. It is quite singular in its variety and yet fire and axe are busy by river and lake, reducing forest and ferns to ashes. To allow them to be destroyed as we do, is not only a disgrace to ourselves, but a crime against posterity. Now is the time to secure that our children shall have open spaces, fresh air, and lovely landscapes. This is the opportunity that never returns. One law now is worth ten, half a century hence. . . ."

The above extract is from the magazine "Zelandia" published in Dunedin in 1889, exactly eighty years ago.

This brief account of the history of our bush scenery brings us to the present existing conditions and what can now be done to preserve and further enhance the landscape and beauty of our country, not only as a basis for the tourist industry, but also for the benefit of our own citizens.

THE TOURIST INDUSTRY

It is generally agreed that the tourist industry in this country will continue to grow substantially and that the long-term prospects are exceptionally good. Two main factors are responsible for this optimistic forecast—firstly, the increasing numbers of people undertaking overseas travel from Australia, North America and Britain (the three main areas from which our tourists are drawn) and secondly, the very great improvement in speed and availability of air travel which has greatly reduced our former isolation. What then have we to offer these expected tourists which will make them enthusiastic about their visits and as a result, turn them into the best travel agents to advertise our country to more potential tourists in their homelands?

Firstly we have undoubtedly a country blessed with much good scenery, but is each particular feature the world beater in its class that over-enthusiastic New Zealanders often imagine it to be? Are our mountain regions superior to the Grand Tetons of the United States, to the Swiss Alps or the Austrian Tyrol? Do our thermal regions appeal more than those of Yellowstone Park in the United States and is our bush more attractive than the redwoods of California, the cypress of Florida or the stone pines of Italy? Are our beaches equal to those of

Australia, South Africa or Hawaii? An unbiased opinion would probably place some overseas feature ahead of ours in each category, but there is probably nowhere else in the world where such a variety of scenic attractions is contained within such a small area as New Zealand. In the 1949 Banks Lecture, the late W. C. Davies described it well:

“New Zealand is a land of infinite variety. In no other part of the globe is there to be found, in so limited an area, such a diversity of natural features. The snowy heights of the Himalayas, the glaciers and fiords of Norway, the geysers and volcanoes of America and Iceland, the grassy steppes of Russia, the forest-clad hills of tropical Brazil and sub-antarctic Chile, all have their counterparts in this *multum in parvo* of the South Pacific.”

In two other fields of tourist interest, however, New Zealand is peculiarly lacking—those of history and wild animal life. So much of Europe and Britain is richly endowed with a history reaching back over many hundreds of years, often adding to scenery a fascinating story of the past in castles, forts, cathedrals and old walled cities. The Americans have made much of their pioneering days and every effort has been made to preserve what is of interest whereas, in New Zealand, we have much less of history and often are indifferent to preserving features which are a part of our limited, historical past. Similarly, in wild animal life we have nothing to compete with the wild animal reserves of southern or eastern Africa, no wild life to match the fascinating Australian animals and birds, and no places like the American National Parks where it is possible to see bear, buffalo, moose and deer in their natural state, adjoining the motor roads.

In a third field, that of native life, we are also rather indifferent, although some commendable efforts have been made. It is not necessary to create the illusion that our Maoris continue to live in their pre-European state, but visitors are anxious to see the best of their culture from those times. These almost complete gaps in some attractions for tourists throw a much heavier burden on to the scenery side, in fact it is the single great attraction on which our reputation as a country for tourists must stand or fall. How essential it is, therefore, that we must do everything possible to preserve and enhance the scenic beauty of our land. The Royal New Zealand Institute of Horticulture has always supported all moves in this direction—be it bush preservation, national parks administration, amenity planting, preservation of historic trees and numerous other similar activities. We have the advantage of possessing a pleasant, green land—this general appearance appealing greatly to many Australians and Americans who are often used to harsher landscapes. It is not only what we have to offer the overseas

tourist but also our own people. The internal tourist is often a more important factor to many of our tourist undertakings than the one from overseas and the availability of tourist attractions will often encourage New Zealanders to see their own country instead of travelling overseas. By this means they would be carrying out what the Government now regards as the most sacred duty—saving overseas funds.

Although the various parts making up our scenery are closely interwoven, let us now consider the major items which form our landscape:

The Mountains—

Our landscape frequently has a backdrop of snowy mountain heights, particularly in the South Island, but we have comparatively few roads which run close to this magnificent scenery. This is largely due to the topography of the country rendering such roads impossible, and restricting roading to a few east-west highways over the lower passes and a number of secondary no exit roads leading into back country stations. The development of winter sports areas has added many access roads to alpine regions and their various ski lift systems have enabled many thousands of patrons to enjoy visits to the mountain regions. It is our next scenic feature which adds the distinguishing characteristic to our mountain scenery and to much of our lower country as well.

The New Zealand Bush—

The clothing of the lower slopes of the mountains with our distinctive, evergreen bush provides that difference of scenery which distinguishes our hills and mountains from those overseas. The Franz Josef and Fox Glaciers owe much of their beauty to the luxuriant, almost sub-tropical bush which covers the valley sides through which they flow down to within a few hundred feet above sea level. Remove this vegetative cover and much of their charm and beauty would be gone.

The unnecessary removal of bush has obviously occurred in many areas, the sheep and its accompanying fires being by far the greatest cause of destruction, although sawmilling, noxious animals, public works and fires resulting from carelessness, have all added their quotas. The first two white men to reach Lake Wakatipu deliberately burnt the scrub covering of the Frankton Flat in order to provide freer access for their sheep, which they proposed to return with to their newly-discovered grazing areas. If the graziers' fires could have been confined to the open areas much of the bush would have been preserved, but this was an impossibility and the repeated firing of the open areas resulted in the margins of the bush being continually pushed back and in very dry seasons large areas of bush were also destroyed. Much of our farmland was cut out of heavy bush and most of this clearing was essential to the progress of New Zealand.

In more recent years there has been considerable progress in the control of excessive burning, with the establishment and development of the State Forest Service and the formation of Catchment Boards. The former authority now controls most of the remaining production and protection of forests in New Zealand and has developed a fire control organization to safeguard these areas as well as its man-made forests. The Catchment Boards have also established fire control over their areas of responsibility so that there is now an efficient system for the control of fires aided greatly by the intelligent acceptance of this necessity by landowners and the great majority of the general public.

The establishment of our ten National Parks has resulted in some five million acres (over three million of which are in bush) coming under the control of Park Boards, who will jealously preserve them as a national heritage, and protect them from all intrusions which would detract from the purposes for which they are intended.

The Government has recently appointed an Advisory Council to report to them on matters concerning scenery which are of national importance. As most of the proposed major inroads into our scenery emanate from Government Departments for various public works projects, it is difficult for our legislators not to accede to the departmental requests.

Good intentions have often resulted in the provision of narrow, bush fringe reservations for scenic purposes along main roads in bush areas. In due time they usually prove ineffective, because a narrow belt, perhaps a chain wide, is quite unable to continue to exist and thrive, when the mass of bush behind it has been cleared for sawmilling or other purposes.

Seascape—

New Zealand has hundreds of miles of beautiful beaches, rocky headlands and coastal cliffs providing a magnificent coast line and also ample space for all our people to enjoy the pleasures of the beach and the sea. The spread of suburbs of coastal towns has inevitably engulfed some of these fine seascapes, but careful planning and its wise enforcement could preserve the beauty of many coastal holiday resorts with benefit to all concerned. The coastal scene is often made more beautiful by a remnant of bush clinging to the rocky hillside—perhaps only a few pohutukawa, ngaio or southern rata—but often fighting a desperate battle for survival against stock and fires. What a great service would be rendered to the community if local organizations and authorities could provide such remnants with protection. There are also numerous sites along our coasts where a little judicious planting with suitable native species would greatly improve the landscape but the priority is to preserve what still survives.

THREATS TO OUR SCENERY

Fire—

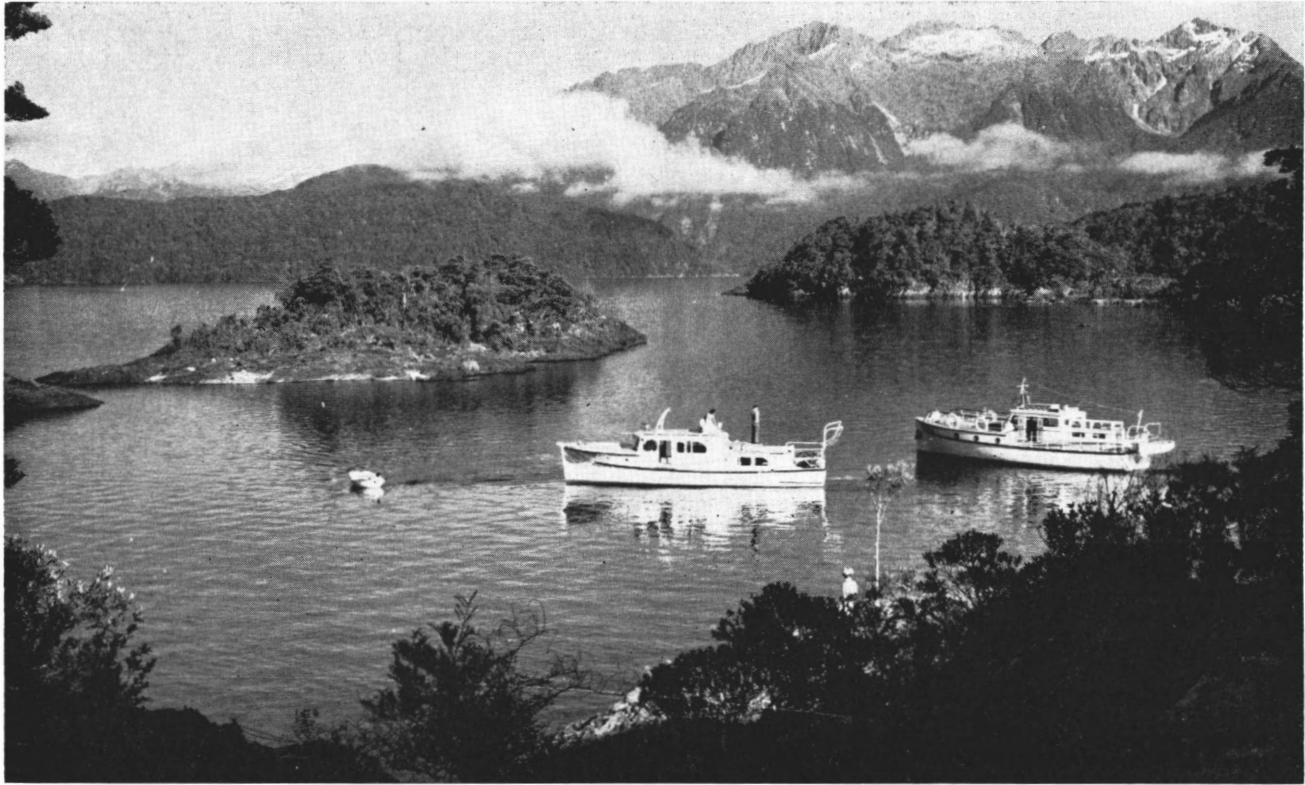
The very great improvement in the reduction in numbers of damaging fires has already been noted. The continued education of the general public in its responsibility towards fires in the open will undoubtedly be carried on and it is suggested that a simple, instructive, television feature could be of value, especially if shown just before the main holiday season. Instruction on where the lighting of fires is prohibited, precautions to be taken in lighting and extinguishing fires where they are permitted, and where a fire does break out, the simple, prompt fire-fighting measures to be undertaken in its control, are the essential features. The urgent, first measures to be used in fire-fighting are the ones that should be demonstrated, not the extensive operations necessary to combat a large fire. The latter may make a more thrilling television feature, but they are not the set of circumstances which will confront the average holiday-maker, who with some basic knowledge, and the New Zealander's ingenuity, could frequently extinguish a small fire (and they all start as small fires) before a large fire-fighting operation was necessary and before extensive damage had been done.

All over our countryside there are small remnants of our native bush, which are frequently being burnt or scorched on the margins, with occasional deeper inroads. In the course of time the bush edge steadily retreats until finally the remnant is greatly reduced or even entirely consumed, its former site marked for the next generation by charred trunks and fallen logs. Only stricter control of fires, be they deliberate or caused by carelessness, can reduce this continuing loss.

In some of our holiday areas attention is usually given to the safety of holiday homes from fire spreading to them from adjoining reserves. At the same time, attention should also be given to the possibility of fire spreading to the reserves from holiday homes and especially from tourist service buildings such as boatsheds, shelters and trampers' huts.

Hydro-electric Schemes—

As a country we have been ruthless in our determination to construct the most economic public works irrespective of considerations of scenery preservation or beauty of landscape. But is this a correct interpretation of the wishes of the people or is it pressure from the planners to concentrate all the available finance on engineering works? The one-sided proposal put to the Minister of the Crown concerned by his departmental planners often makes it impossible for him to give any other decision than that of one hundred per cent support for their proposals. Nowhere has the argument been hotter than with the Lake Manapouri power scheme and the proposed Upper Clutha scheme. Before the commencement of the former project, the then head of the Ministry of Works



Lake Manapouri from Channel Island, looking towards Cathedral Range, Southland.

Photograph—National Publicity Studios

made a public statement that damage to the scenery at Lake Manapouri could be repaired and that man was capable of producing far better results than Nature. This absurd statement, obviously from a person without any appreciation of the landscape problems, is naturally solace to a Minister of the Crown who is being badgered on the other side by over-zealous scenery enthusiasts. We must have our hydro-electric schemes, even with their effects on scenery and National Parks, but surely it is possible to compromise and not demand the maximum power result with its attendant destruction of scenery. Nothing is more destructive of lake scenery than a large artificial rise and fall in the level of the lake water.

Lake levels have become the property of the hydro-electric planners and they assume as a right that they can do harm to anyone if they fix their natural upper levels for lakes and rivers on that reached by the great flood of the 1860s. Some authorities state this flood to have been possibly the greatest flood in a thousand years, and one fears that the planners may yet find, high on some hillside, a portion of the Ark and claim their just levels accordingly. In the case of Lake Wanaka, assurances have been given by the Minister that the levels will not be interfered with but his Department then produces proposals to dredge the outlet and lower the lake level when required.

Excellent work is being done by the Government in its landscape improvement schemes in many places including the hydro-electric lakes of the Waitaki Basin but there is a world of difference in attempting to restore damage at Manapouri, one of the world's most beautiful lakes, and planting the banks of artificial lakes derived from damming rivers in a former, almost treeless, landscape. If the maximum raising of the level of Lake Manapouri is proceeded with, involving the flooding of thousands of acres of marginal bush, it is to be hoped that the result will not justify the application of the interpretation of its Maori name—"the lake of the dark influence" or "sorrowing heart".

Roads—

In Europe and Britain, new roads and improvements to existing roads are carefully planned in relation to their effect on the landscape and it is time that increased importance be placed on this aspect here, both in construction and maintenance. There is no use constructing a road through scenic country if a great wide passage is to be carved through the bush in the interests of construction and maintenance. The marginal cleared area is frequently taken over by weed species and the traveller gains an impression of official destruction and neglect, instead of passing through a magnificent piece of bush. It cannot be denied that the problems of maintenance may be increased but there are also additional compensations to the user of the road in the reduction of

frost and the provision of shade, apart from the increased beauty of the roadside. If anyone doubts that these road clearances can be reduced to a minimum, they should travel some of the highways through the magnificent forests of the Pacific North-west of the United States, where large trees grow almost up to the margin of the highway and the scenery has been preserved, despite the fact that the amount of traffic will be many times that of similar roads in New Zealand. In some cases we have engineers who are interested in the preservation of the scenery but they often have a difficult task in controlling construction gangs and bulldozer operators who for so long have been accustomed to our New Zealand attitude of indifference to the preservation of roadside scenery. This protection of scenic resources should always be one of the objects of the road-makers and even in some cases it is the primary object for which the road is being constructed. Little attention is given to minor matters in case they should slightly increase the cost of the work. An example of this occurred on the highway over the Kaimai Range to the Bay of Plenty, where road widening operations were in progress. The rock spoil from one cut was being dumped over the nearest bank into a gully whose banks were clothed with one of the few remaining patches of bush adjoining this main highway. It may have been the cheapest operation but it certainly was the crudest and most short-sighted, and being right in the public eye, it set no example of consideration by the State for such matters.

In this country we so often fail to sense what is fitting and appropriate in landscape and tourist appeal and instead do the most incongruous things. A costly highway was constructed to give access to the magnificence of Milford Sound, the road itself traversing some beautiful lake, bush and mountain scenery. The sole purpose of the road was to serve scenic and tourist interests, but recently the Government proposed to construct an overhead telephone line along the length of the road. No one would question the intention to improve communications to Milford Sound, but no other country would officially propose such an overhead telephone line, with its attendant destruction of roadside beauty and ever-present interruption of the landscape, to be cursed by every photographer, who in the midst of paradise, will be so often frustrated.

Another curious example of incongruity has recently been brought to public attention in a letter to the *Otago Daily Times* by two American visitors from Honolulu. They state that in order to deliver supplies into the huts along the Milford Track, what is advertised around the World "as the loveliest walk in the World" is fast becoming "the loveliest tractor track in the World". They ask, "What does the Milford Track signify to New Zealanders? Since the track is within the Fiordland National Park, does not the natural beauty come before 'progress' in a national park; or do New Zealanders have so many places of natural beauty that

they will passively accept the transformation of the 'loveliest walk' into 'the loveliest tractor track'? As two otherwise enthusiastic visitors to New Zealand we hope to find the track unspoilt when, and if, we can ever again visit your beautiful country."

Roads are still the important link in carrying tourists, both our own people and those from overseas, to our various resorts and the landscape of the roads has much to do with the general appearance of the countryside. One unflinching act of the Government's could do wonders to rid the roadsides of one of the greatest eyesores—hoardings. If there is a genuine demand for road safety, surely it is one of the easiest ways to rid the roads of some unnecessary detractions and enable drivers to concentrate on the road and those signs which are necessary for road safety and information. Two of the greatest offenders are the tyre and petrol firms, but it is hard to believe that among the directors of such important companies there are not men of taste and discernment who must wince at every experience of seeing roadside hoardings, advertising their products, and disfiguring the landscape. They are detracting from the pleasure of the very people who are their customers and one would think that these important companies would welcome the prohibition of such clutter on the landscape. Surely there are better and more subtle ways of advertising instead of foisting it on to a pleasant landscape. Hoardings have been banished from most motor roads of Europe, so surely it can be done here, even in the interests of road safety alone.

Litter—

No matter how good the scenic attractions may be, the effect will be spoilt if the countryside is littered with broken bottles, empty cans and trash of all descriptions. Unfortunately, there has always been a public and official attitude that the depositing of litter and its related anti-social practices of vandalism and petty theft are "petty crimes" and therefore not requiring the full force of deterrents. The total monetary loss to the community caused by the above three "petty crimes" amounts to considerably more than the total loss caused by major thefts. The community must protect itself from such losses and although educational programmes and publicity campaigns are all to be encouraged, the effective deterrent is rigid enforcement and maximum penalties. It is noted overseas that the countries, states or towns with the highest penalties and strictest enforcement are those which are freest from such "petty crimes". New Zealand compares very unfavourably with many overseas countries re litter and the opinion is strongly entrenched that the citizen has the right to take what eventually becomes litter into a public place and deposit it in a rubbish receptacle, and if there are no such facilities, to strew it about as litter. The principle should be established that what eventual litter you take out with you to a public place, you should

take home with you to be disposed of in the normal hygienic way. To the very great majority, the motorists, this should require very little effort.

Tourist Resorts—

It is a New Zealand way of life to have a holiday house or camp, however humble, at some beach, lake or river resort. In some cases the uncontrolled sprawl of building has detracted from the natural beauties of the area which the holiday home builders have gone there to enjoy. Stricter planning control would be in the interests of all parties, but the committees responsible for the policies must be capable of intelligent foresight. At one southern lake resort we have the spectacle of the authorities proposing to uplift the reservation of an area of Domain land to make it available for housing development. The Domain is planted with trees over thirty years old and forms a magnificent back-drop to the existing township. The administrators wish to sell it for building sites, because they have too many reserves they say (and this is a holiday town!) and they need the money to develop other reserves. Have the administrators ever looked at this holiday town with the beauty of the setting in mind, or is it all the same to them if a lovely, green back-drop is replaced with corrugated iron roofs?

The Tourist Hotel Corporation—

All New Zealanders who are interested in landscape and horticulture should be grateful to this Corporation for their excellent work in landscaping the surroundings of their tourist hotels. The Corporation realizes that no matter how good the hotel its setting is of very great importance, and the visitors' picture memories of a resort will often be of their hotel set in its beautiful surroundings. There has been discussion, at times, of the relative importance of native and exotic plants for use in the gardens of these hotels, and this Institute of Horticulture has advocated the use of native material wherever appropriate and possible; certainly when the plants of the surrounding landscape are entirely native, as at Milford Sound, exotics should be used sparingly or not at all, but when the surrounding plant cover is mixed or almost entirely exotic, let us select the widest range of suitable material from throughout the world and grow it to perfection as New Zealand so often does. Some of the Corporation's plantings have done more than merely landscape the hotel grounds, for at resorts like Wanaka they have contributed greatly to the general appearance of the township and the beauty of the garden is appreciated, not only by the hotel guests, but by thousands of other visitors to the resort.

It would be highly desirable if this same consideration for the surroundings could be extended to other buildings in the public eye;

seaside or lakeside service buildings, bus terminals, swimming pools, etc. In many cases it merely requires the intelligent retention and maintenance of the existing bush surround and in others the planting of a few typical New Zealand plants, if conditions are suitable. Three easy native plants capable of producing a New Zealand atmosphere are cabbage tree, flax and tree-fern (particularly *Cyathea medullaris*) and there are not many sites where one or more of these three cannot be grown. Enthusiasts will suggest numerous others from pohutukawa in the north to the mutton-bird shrub (*Senecio rotundifolius*) in the south. Much has been done by airport authorities to landscape the areas available to them, but much more remains to be done particularly as these are the areas under the close scrutiny of travellers and they may provide the first and last impressions of a country for the visitor.

Towns—

We imagine that most overseas tourists spend all their time in New Zealand at our mountain or lake resorts, but this is far from the actual case because the majority of them spend a considerable proportion of their visit in our towns. It is all of our country, including the towns, which make up the general picture of a pleasant land and everyone of us has something to contribute towards this picture. Nowhere else in the world does such a large percentage of the population have their own home gardens and with our favourable climate, beautiful trees, shrubs and gardens abound. Most New Zealand towns are well endowed with open spaces and together with our individual home gardens, they help to make up the typical New Zealand style of town. It is desirable that we should retain our own characteristic style and not convert our towns to be the same as hundreds of others overseas. The greatest menace to the character of our towns is unwise planning of major roads, the open spaces attracting the planner like a magnet. It is said overseas that any fool can plan a highway if he uses up the open spaces, but he will do this if at all possible because there is usually no cost for land or clearance of buildings, no outcry from private landholders and no compensation. It is amazing how a road can be bent, curved, raised, lowered or narrowed by the planners to avoid expense or private property, but if open space is available, no matter how great its community value, it is mutilated or swallowed up because any such deviation as above then becomes "technically impossible". But it is the general public and future generations who are being robbed, particularly where the central open spaces of towns are concerned. The proffered sop that the lost open spaces will be replaced is entirely unrealistic, for although they may be replaced on the outskirts, property purchases are seldom ever made to-day in the central areas of towns for the purpose of open spaces.

This keeping of the land fair is not merely for the benefit of overseas

tourists but we ourselves wish to enjoy good living amid beautiful surroundings. At the establishment of this Institute, the late Dr. Leonard Cockryne wrote a pamphlet on its aims and aspirations in which he stated:

“Man, equally with all forms of animate life, is greatly affected by his environment, and the more beautiful his surroundings, the better citizen must he be. And when we consider our climate, so mild in comparison with that of northern lands, what wide scope is there for the gardener’s art, what opportunity for creating a national horticulture in character truly New Zealand, its material not only the floral wealth of all temperate and even sub-tropic lands, but that which the primeval vegetation of this favoured land of ours can supply.”

RECOMMENDATIONS:

1. As scenery is our main tourist asset, renewed efforts should be made to retain our landscape in the most attractive condition by repelling all activities which despoil without justification. If we do not protect and conserve, our scenery potential will be gradually whittled away.
2. Improve the landscape of our roads by reducing despoliation to a minimum during formation and maintenance. Remove all roadside advertising hoardings. Make further plantings to improve the landscape of the roads.
3. Encourage the landscape work of the Tourist Hotel Corporation and the spread of similar work to improve service buildings at airports, bus terminals and holiday resorts.
4. Recommend the further control of building sprawl at holiday resorts in order to protect the landscape.
5. Retain and improve the landscape of our towns, particularly by protecting the central open spaces and by encouraging the further improvement of public open spaces and private gardens.
6. Increase the penalties for litter offenders and vandals and enforce the law strictly.

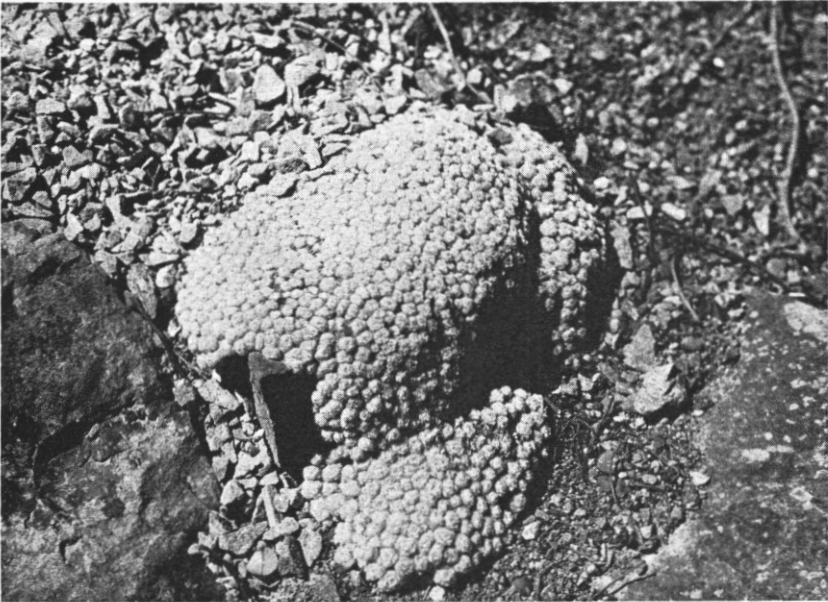
The tourist industry is the concern of every New Zealander, not just those immediately connected with the operation of hotels, transport and tourist services, and it is only by everyone helping, that the industry can prosper to become one of New Zealand’s greatest assets. Beautiful scenery even is not so important as the friendliness of the people and their willingness to help in making all our visitors welcome.

RAOULIAS—RARE AND RAMPANT

By MARGARET MORGAN, *Te Kuiti*

COME and have a cup of tea in the staff-room, said the teacher to the few parents who had played a game of tennis with the school children. As I sank on to a chair my eyes caught a notice on the board, "Return Vegetable Sheep" it read. Now of all the plants of New Zealand that I have ever wanted to see, it is *Raoulia eximia*, *Haastia pulvinaris* or any other of the so-called "Vegetable Sheep" varieties. How could such a rare plant of our mountainous South Island come to be in the local schoolroom? The answer proved to be simple as a passing child showed me a wooden case sent by the Auckland Museum, and in it behind glass panels I could at least satisfy my curiosity about this odd plant, which in this case was quite dead, very dry, and probably years old, but unmistakably two different species of *Raoulia* and one *Haastia* sp. The samples were rather small, so I was able to explain to a few interested children that the original plants from which the pieces were taken were in all probability several feet in circumference, and more than a foot in depth. To come across the plant one would be in the mountains of Marlborough on a shingle slip some 5,000 to 6,000 feet above sea level. When espied the plant would look like a cast sheep until on drawing closer the thousands of tiny grey-white rosettes could be seen. Raoulias belong to the daisy family, and are named for Raoul the French explorer who botanised in New Zealand during the last century.

We cannot grow a vegetable sheep in our gardens, but some of their more prolific relations make fine mat plants, especially in a rockery. My first acquaintance with *Raoulia australis*, also known as the scab weed, was from a touring bus going across the arid Mackenzie country, where it grew in large grey patches along the roadside. It is a fine plant for crazy paving or a pocket in a rockery, making rapid growth. *Raoulia tenuicaulis* is slower in growth, very hard to the touch and with minute flowers which transform the plant into a mat of gold in early summer. Another raoulia which makes a really hard mat is, I think, *Raoulia hookeri*, and this one is also coloured silver. The *Raoulia* spp. hybridise and there are some interesting plants to be seen on mountain and river-bed nature walks.



A young plant of *Raoulia eximia* forming a hummock over a large stone.

Photograph—R. H. Mole.

REGISTER OF JUDGES

Notice to Members

I wish to draw your attention to the service now being offered by this Institute in keeping a Register of Judges. When approved for entry in this Register the judge is given a small certificate in a plastic case—suitable for carrying in purse or pocket—and signed by the Dominion President and Dominion Secretary of the Institute. The Register is kept in the office of the Dominion Secretary and lists judges in Floral Art, Roses, Camellias and other specialist Societies.

Nominating bodies take full responsibility that the conditions under which the judge is granted a Certificate are as stated in the application form, which may be obtained from the Dominion Secretary or District Council Secretaries.

J. F. LIVING, *Dominion President.*

HATS OFF TO HIBISCUS

By DOUGLAS ELLIOTT, *New Plymouth*

LUCKY you if you live in a district that's mild enough for the tender hibiscus. Their lovely flamboyant flowers lend a tropical touch to your garden from early summer to late autumn.

But they are not the only kinds that do well in New Zealand; for there are other species, not so showy but still worth growing, that are hardy in cold climates; one is even hardy in the face of salty sea breezes.

The tender hibiscus are mostly varieties of the scarlet *Hibiscus rosasinensis*, a native of Asia. The horticultural dictionaries are not definite about its exact place of origin. There's a possibility it came from China but as L. H. Bailey says in his "Manual of Cultivated Plants," it is "now conspicuous in all warm countries and grown under many varietal and Latin names."

He adds that it "apparently hybridizes with *H. schizopetalus*, the forms being recognised by drooping long-peduncled (long-stemmed) flowers with more or less crisped corollas and short-toothed calyx. Some forms bear nearly entire leaves and erect flowers."

"Crisped" doesn't mean brittle like a potato chip but "with wavy edges."

One of the best old varieties is 'Agnes Gault' which loads itself with silky pink flowers all through the flowering season. It is a healthy grower and has the "entire" (not lobed) leaves Bailey mentions.

During the past four or five years some very fine Hawaiian varieties have become available at Auckland nurseries. Those I've seen have been remarkable for the size of the flowers, for the unusual colours (including rich yellow), and for the puckered petals.

I'm told they are more tender than the old varieties; if you can give them an especially warm and sheltered corner they are well worth a trial.

I prefer single hibiscus to double. The singles have those beautiful stamens with the cluster of anthers near the tip and you can look deep into their throats which in some varieties are a different colour from the rest of the flower.

A friend who grows the doubles says you must feed them well or some of the flowers will come single.

Hibiscus are wonderfully carefree. You may have to feed your doubles but I seldom feed my singles.

I do have to spray them occasionally; aphid pay unwelcome attentions to leaves and flower-buds. A whiff of insecticide soon cleans them up. I use carbaryl (sold under such names as Pestone and Septan) or the safe pyrethrum spray called Pyrox. So far I have never had to spray for

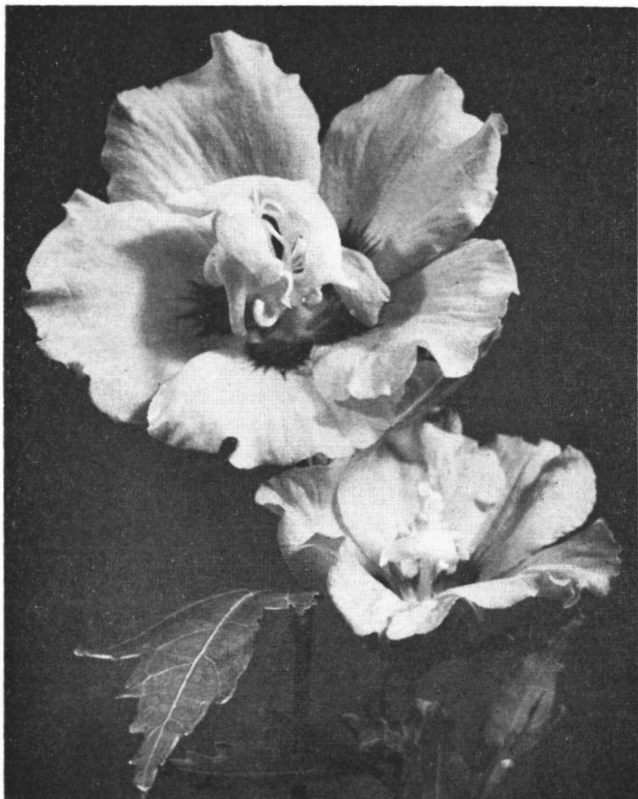


One of the new Hawaiian hibiscus is 'John F. Kennedy,' which is warm apricot with a deep carmine throat. The petals are ruffled.

Photograph—Douglas Elliott

Now there are two ways to do this: the all-over-all-round method which produces an uninterestingly-shaped plant with a solid mass of branches, and the pick-and-choose method which results in a more open plant with an irregular, more interesting, and, I believe, a more natural shape.

I much prefer the second method. But how do you go about it? You leave some branches quite long, shorten others, remove completely any that tend to make the plant too solid.



Rose of Sharon (*Hibiscus syriacus*) is a hardy shrub.
(Page 118)

Photographs—Douglas Elliott



Hibiscus trionum is a New Zealand plant with cream flowers
with a dark brown throat. (Page 118)

If you follow the first method you soon become a pruning addict because it makes the plant grow so vigorously that you have to cut it back hard every year to stop it getting out of hand.

Perhaps your garden is too cold for the tender hibiscus. Does this mean you can't grow any hibiscus at all? No; as I said at the beginning, there are some hardy kinds; two will grow as well in cold areas as in hot.

One of them is the vigorous deciduous shrub called *H. syriacus* or, to give it its common name, Rose of Sharon. The flowers are 2 to 3 inches wide and are something like those of the related abutilon or Chinese Lantern as they don't open wide the way the tender ones do.

The colours are subdued—pale pink, mauve, and white, some with dark throats. Some varieties bear double flowers.

The Rose of Sharon has upright branches which even without pruning keep the plant tidy. Here again you can use either of the two pruning methods I've just described.

The other hardy hibiscus is something quite different, a perennial from the swamps of the south-eastern states of the U.S.A. Its botanical name is *H. moscheutos*.

In habit of growth it resembles the hollyhock; from tough fleshy roots it sends up in late October a cluster of strong quick-growing shoots with big, lobed leaves. (As with the tender hibiscus some varieties are more lobed than others.)

The flowers, which open in February and March, are as big and beautiful as those of the tropical hibiscus though the colours are not so varied. The two I grow are pink and crimson.

The swamp hibiscus is easy to propagate from divisions and from seed. Although it comes from swamps it grows well in normal soil that isn't too dry.

The only other hibiscus I grow is one of our native species, *H. trionum*. It is usually an annual; sometimes, with a special effort or a particularly mild season, it becomes a biennial. It comes up from self-sown seed. It forms a straggly plant about 2ft high; the leaves are deeply lobed; the flowers are about 2 inches wide, cream with a dark brown throat. Pretty but not the sort of thing to write a song about.

Did you murmur something about the Norfolk Island hibiscus? This is *Lagunaria patersonii*, a very close relation of the hibiscus and an ideal plant for the seaside as it thrives near high-water mark, unharmed by salt spray and sandy soil.

It is an evergreen with thick dull-green leaves and in summer it produces continuous supply of not-very-spectacular pink flowers. The plant grows 10 to 30ft high with upright branches that give it much the same shape as that of our native rewarewa.

OUR PICTURES

We would all like to see colour in our Journal for plants and flowers are natural targets for colour photography. However, economics make this impractical in a publication of limited circulation and we have to be content with black and white pictures. Nevertheless, black and white pictures of flowers and plants may be of great interest and educational value. Photographs for publication, whether colour or monochrome, must be of high technical quality and well composed. The centre of interest should be given full prominence and if it occupies most of the frame so much the better. Backgrounds must be plain and in no way distracting and the centre of interest should stand out from it. Good contrast and good definition is essential though softening of the background is permissible and often advantageous. Foregrounds in most cases are preferably eliminated in the final print and out of focus foregrounds are definitely out as they are most distracting, and can completely spoil an otherwise good picture.

Though it is sometimes possible to produce a reasonable black and white print from a colour transparency this procedure seldom gives the best possible result and is best regarded as the last resort. It is a roundabout, complicated and expensive method of obtaining an inferior result.

Colour transparencies are developed to a higher gamma than is general for black and white negatives. Contrast is increased in making the copy negative (internegative) and a very contrasty negative results and often detail is lost in making the print.

In exposing colour transparency film it is regarded as correct to expose for the highlights whereas in black and white photography one exposes for the shadows so as to obtain maximum detail.

A high proportion of amateur slides and prints have poor definition due to camera movement and poor focussing. Black and white prints require a higher standard of definition than colour transparencies and the higher speeds of black and white film mean there is less risk of poor definition due to camera movement and/or poor focussing. Also the smaller aperture and consequent increased depth of field will minimise the focussing errors.

If you examine our pictures carefully you will notice they are composed of small dots. This lessens the definition of the original and there is also some loss of intermediate tones. Consequently poor definition in the original will be greatly accentuated in our reproduction.

We welcome the submission of relevant photographs but the prints should be of high quality and preferably from black and white negatives.

If you have only colour transparencies send them along rather than having negatives and prints made locally. We will return them without fail.

HORTICULTURAL TOWN AND AROUND**Plants and Gardens on Banks Peninsula (II)**

By *L. J. METCALF, N.D.H.(N.Z.), Christchurch*

As mentioned in the last issue of this Journal, the history of European horticulture on Banks Peninsula probably commenced with the arrival of the French settlers at Akaroa in 1840. When they arrived, the bush came down to the water's edge in many places, and there was little in the way of clear land, but as it was a condition of their tenure that the land should be cultivated within five years of their arrival or revert to Captain L'Anglois, who initiated the settlement at Akaroa, it is not surprising that the land was soon cleared and cultivated. Photographs taken twenty-five years later show an orderly township with some patches of native bush remaining and exotic trees such as *Salix* and *Eucalyptus* thriving. Today, Akaroa has an atmosphere which is distinct from any other part of New Zealand. The old French and English colonial houses, the French street names and the quiet nature of the township give it a charming old world atmosphere. However, while the French were the main settlers in Akaroa, and while they obviously left their mark in place names and the architecture of buildings, it is strange that horticulturally there is little to remind us of their presence.

Probably, one of the most constant reminders that the French



Akaroa Township.

Photograph—L. Metcalf.

settled Akaroa is the walnut tree. One sees them everywhere and it would be quite safe to say that in no other town in New Zealand would there be as many walnut trees to the square mile. There are walnut groves consisting of a dozen or more trees and always planted in rectangles, there are smaller groups and there are single trees. They are to be seen right in the heart of the township as well as in the adjoining farmlands and they pop up in the most unexpected places, such as in the heart of second growth bush high up in one of the valleys. It is difficult to estimate the ages of the trees, but not all are old and some have obviously been planted in more recent years.

The township of Akaroa nestles into three large valleys (Grehan, Balgueri and Aylmers), which sweep down to the shores of French Bay from the heights of Purple Peak, Stony-Bay Peak and Mt. Berard. Originally the township was more or less divided into two sections with the French favouring the northern part, comprising Grehan and Balgueri Valleys and the later arriving British the southern end which is situated in Aylmers Valley. This is also reflected in the street names of the two areas. The first two valleys are characteristically French and Grehan Valley, in particular, is noteworthy for its groves of walnut trees, some of which are very fine. In addition there are old orchards which contain ancient specimens of apple, pear and quince. This would surely be a happy hunting ground for anyone interested in obtaining old varieties of fruit trees.

Just as Grehan Valley is essentially rural, so the lower portion of Balgueri Valley is essentially urban. Here the Rue Balgueri is lined with fascinating and most attractive old cottages and the occasional town house which belonged to one of the wealthier families. On the corner of Rue Balguerie and Rue Lavaud is the Langlois-Étéveneaux house which has now been restored and furnished in the manner of an early French-colonial home. The house probably dates from the early 1840's and it is one of the oldest houses in Canterbury. The small garden surrounding it has been attractively paved and, in an attempt to preserve the colonial atmosphere, planted mainly with old-fashioned roses and some herbs. However zinnias, modern bedding begonias and a few native shrubs just spoil the effect.

In Aylmers Valley at the southern end of the township, the English colonists managed to create the atmosphere of a small English country village. Narrow, winding lanes with tall hedges of cherry laurel (*Prunus laurocerasus*), trees and shrubs festooned with traveller's joy (*Clematis vitalba*), periwinkle (*Vinca major*) forming a dense cover along the road-sides and under trees, and a greater percentage of trees such as sycamore (*Acer pseudoplatanus*), and elm (*Ulmus procera*) all testify to the English origins of this part of the township. In fact it is by the presence of certain plants or lack of them that the two areas of Akaroa may be

distinguished. The French apparently had little longing for the plants of their homeland, and apart from walnut trees and perhaps willows (*Salix alba*) they seem to have brought few trees with them and both Grehan and Balgueri Valleys are characterised by a greater number of native trees which have been left or planted. On the other hand the English, in their inimitable fashion, apparently set out to make the area as much like their homeland as possible, with the result that in Aylmers Valley fewer native trees have been left and many more exotics planted. In addition to the plants already mentioned the following were noted as being planted around the remains of old homesteads—*Sequoiadendron giganteum*, *Corylus avellana*, *Magnolia grandiflora*, *Quercus robur* together with various apples and pears.

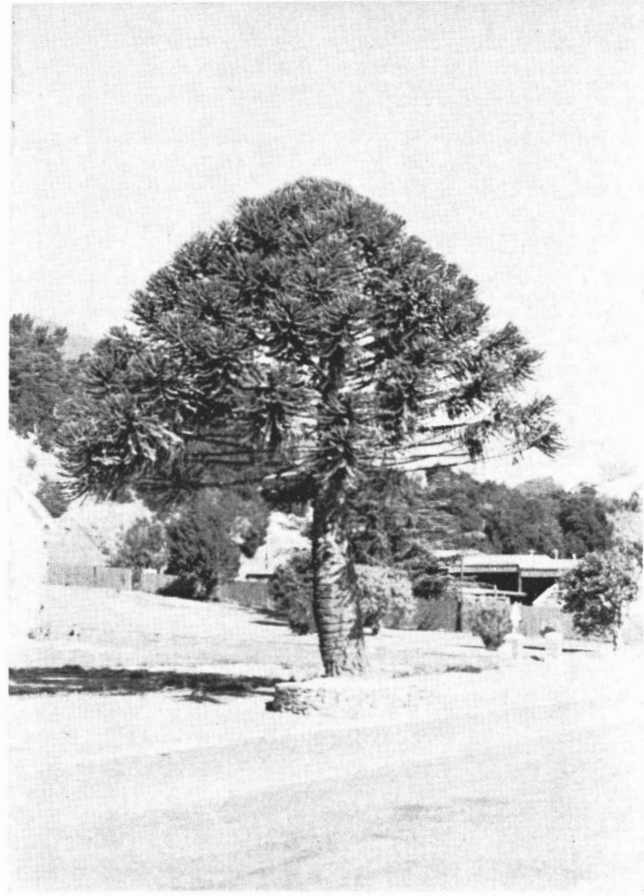
Generally speaking the gardens in Akaroa contain a rich and varied plant life and occasionally some rather surprising finds are made. On the other hand there are some plants which are conspicuous by their absence, although this is perhaps not so surprising because there is no nursery in Akaroa and plants have to be purchased in Christchurch or by mail order. One surprising find was an old plant of the Australian *Olearia argophylla*.

One of the most interesting things about Akaroa is the delightful way in which regenerated native bush intrudes into the township and gardens and also the way in which individual trees have, in the past, been left so that they now give gardens that air which is only found in gardens with trees 70 or more years old. With so much bush around it might be thought that nobody would be interested in planting any more natives in their gardens, but that is not so and there is ample evidence that the local gardeners are still interested in growing them.

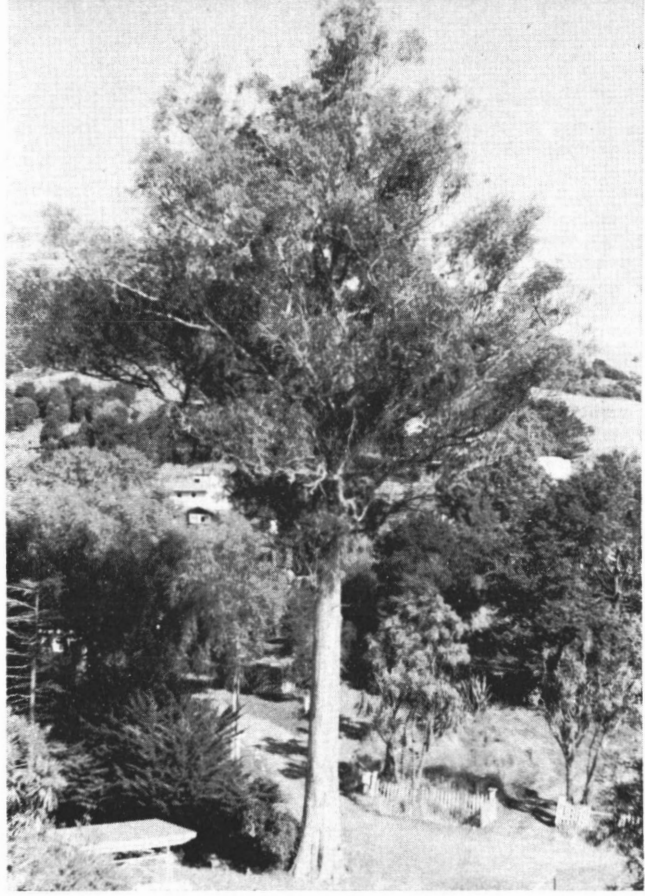
Some of the native trees and shrubs which appear spontaneously in and around local gardens are *Pittosporum eugenioides*, *P. tenuifolium*, *Alectryon excelsus*, *Leptospermum ericoides*, *Macropiper excelsum*, *Melicytus ramiflorus*, *Sophora microphylla* and *Clematis foetida*. The titoki (*Alectryon excelsus*) is noteworthy, because it is to be seen in so many gardens and it is especially plentiful in the Balgueri Valley. Similarly *Clematis foetida* is particularly common in and around the township and during September its scented yellow flowers enliven many a tree or patch of scrub.

One native tree which is a feature of some gardens is *Rhopalostylis sapida* (nikau palm). There are some fine old specimens in some gardens and they prove that, although somewhat slow growing, this palm could be more used. *Metrosideros excelsa* (pohutukawa) thrives and surprisingly *M. umbellata* (southern rata) appears not infrequently, although it does not appear to flower freely.

Upon entering the township by the Rue Lavaud, the first tree of note, is a well-shaped specimen of *Araucaria bidwillii* (bunya bunya)



Araucaria bidwillii, outside St. Patrick's Church, Akaroa.
Photograph—L. Metcalf.



Eucalyptus globulus in the Balgueri Valley. (Page 124)
Photograph—L. Metcalf.

growing in front of St. Patrick's Church. Originally it was just inside the church grounds, but recent road widening threatened its existence. Fortunately the Council realised its worth and it now features as a kerb-side specimen.

There are two specimens of *Schinus molle* which are also of particular note; one is in a private garden along the Rue Lavaud and the other is on the waterfront in front of the Bruce Hotel. The latter is a lovely gnarled specimen of noble proportions and is one of the finest I have ever seen. Another eye-catching tree is a particularly fine specimen of *Eucalyptus globulus* (Tasmanian bluegum) on the roadside in the Balgueri Valley. Its lofty crown rises high above a very tall, slender trunk and it is in very good condition, showing no signs of ever having been attacked by the destructive gum-tree scale. Also in the Balgueri Valley is a good specimen of *Robinia pseudacacia* (false acacia) adorned with one or two large clumps of *Loranthus micranthus* (mistletoe). Balgueri Valley is one of the most interesting parts of Akaroa, both for the variety of plants and the way they grow. For example, in how many other towns would one find Chinese gooseberry rambling over roadside vegetation?

Around the waterfront gnarled and twisted *Myoporum laetum* (ngaio) feature along with *Eucalyptus ficifolia* and *Araucaria heterophylla* (Norfolk Island pine), and in the adjacent War Memorial grounds *Phoenix canariensis*. These plants all help to give Akaroa its character and it is unfortunate that the theme has not been continued with new plantings instead of using such plants as flowering cherries.

To enumerate all of the plants seen in Akaroa would be like writing a nursery catalogue, but to give some idea of the range of material grown I will list the following:—*Protea cynaroides*, *P. longiflora*, *P. neriifolia*, *P. scolymocephala*, *P. susannae*, *Leucospermum reflexum*, *Tibouchina urvilleana*, *Bougainvillea glabra* 'Magnifica Traillii', *Jacobinea carnea*, *Leonotis leonurus*, *Aloe saponaria*, *Osteospermum ecklonis*, *Senecio petasites*, *Echium fastuosum*, *Clethra arborea*, *Pandorea jasminoides*, *Podranea ricasoliana*, *Stenocarpus sinuatus*, *Paulownia tomentosa*, *Thunbergia gibsonii*, *Salvia leucanthe*, *Banksia spinulosa*, *B. ericifolia* and *Phoenix dactylifera*. There are quite a number of garden escapes and *Senecio mikanoides* (German ivy) and *Lonicera periclymenum* (honeysuckle) to name but two are not uncommon.

No account of Akaroa would be complete without a visit to the garden of Mr Norman Peryer, which is situated in The Glen Bay near Green's Point. Mr Peryer is an enthusiastic collector and for many years has been planting all manner of trees and shrubs. One of the outstanding features of his garden is the collection of citrus fruits, most of

which do very well in Akaroa's congenial climate. Some are now quite large trees and he has several varieties of lemon, orange and grapefruit as well as other lesser grown types of citrus.

A specimen of *Macadamia ternifolia* about 12 feet high appears to be thriving and it is understood that it has started producing nuts. One outstanding tree which was flowering at the time of the visit was *Brachychiton acerifolium* (flame kurrajong). It is about 15 feet high and in characteristic fashion had lost its leaves on the parts which were flowering, while the non-flowering branches retained their foliage. In a sheltered corner of the house a banana is growing, but it is obviously getting near the limit of its tolerance. Other fruits of interest are *Persea gratissima* (avocado pear), *Diospyros kaki* (Chinese persimmon), *Eriobotrya japonica* (loquat) and *Carica quercifolia* (mountain papaw) which like the banana appears to be near the limit of its tolerance. Specimens of *Eucalyptus leucoxydon* 'Rosea', *Acacia melanoxylon* and *Myoporum serratum* as well as various natives provide the shelter against wind and sun for trees and shrubs such as *Ficus macrophylla*, *Protea repens*, *P. eximea* 'Glaucua,' *P. barbigera*, various *Leucospermum* spp., *Metrosideros kermadecensis* 'Variegata', *Hakea laurina* and numerous others.

A recent guide book to Akaroa proudly states, "Akaroa has one of the most beautiful domains in the Dominion". This is an over statement, but none the less it does contain some interesting and fine specimen trees. Situated on a small hill at the southern end of the township it was apparently started in the 1880's by the English colonists. Originally it must have been intended to lay it out and plant it in the park-like fashion of the large English estates, but after the initial impetus that objective seems to have been forgotten. The result is that there are old and sometimes fine specimens of exotic trees partially lost in a mass of second growth native vegetation. It is mainly the conifers which are of interest and some are magnificent specimens. A large *Chamaecyparis thyoides* 'Andleyensis' is larger than anything else I have seen, as is a 100-foot high *Pinus wallichiana*. Then there is an *Abies spectabilis* var. *brevifolia* which is more than 100 feet high, *Abies concolor*, *Cupressus funebris* and *Thuja plicata* all of which are noteworthy. Of the broad-leaved trees a 50-foot high specimen of *Photinia serrulata* is also outstanding and among the native trees a very fine specimen of *Leptospermum ericoides* takes the prize.

The French are credited with introducing into New Zealand a number of plants and the one which, because of its associations, has always been mentioned is *Salix babylonica*, the weeping willow. The original cuttings were said to have been brought from a tree overshadowing the grave of Napoleon Bonaparte on St. Helena, and the weeping willows which are so characteristic of the River Avon in Christchurch

are said to be derived from those. How true is this story? Apart from some young trees there is little evidence today of *Salix babylonica* in Akaroa and the only old trees noted were two specimens in Grehan Valley. If the French did bring them they certainly did not plant them freely around the township. Jacobson¹ states that M. Francois Le Lievre brought two weeping willow cuttings from a tree overshadowing Napoleon's grave on St. Helena and that he planted one in German Bay (Takamatua) and the other close to his whare in Balgueri Valley. Further credence is given to the story by William Wilson² the pioneer Christchurch nurseryman who stated that *Salix babylonica* was first introduced into New Zealand by the French in 1840. He mentions the first one as being a noble tree at German Bay (Takamatua) and also mentions that three of the finest are growing in the grounds of Mr Watson, the Resident Magistrate at Akaroa, each one standing about 25 feet high.

The only element of doubt, then, concerns whether the 'Comte de Paris' (the ship in which the settlers sailed) actually called at St. Helena. Jacobson is not explicit on this point, although he definitely states that M. Le Lievre brought the cuttings from St. Helena. In a personal account of the voyage out, given to him by M. Waeckerle, one of the original settlers, there is no definite mention of St. Helena. It is simply stated, "The weather too was very rough, and all on board were glad when a short stay was made at an island in the tropics (probably St. Helena), where fresh provisions, including a bountiful supply of bananas, were procured".

Other introduced plants also largely owe their introduction into this country to the French and one in particular is the walnut. William Wilson³ states that walnuts in Canterbury are attributable to a M. Belligny, the self-styled agent of the settlers who planted two in his garden at German Bay. He also states that from these Akaroa walnuts he purchased seed and raised some 7000 young walnut trees which he sold throughout New Zealand. They sold readily at £12-10-0 a 100. The Rev. William Aylmer is also credited with bringing the first lily-of-the-valley (*Convallaria majalis*) into Canterbury. He is said to have brought it from Ireland in 1851 along with other plants.

To conclude this article about the plants and gardens of Akaroa, I would like to sound a word of warning about the township's future. Akaroa is a national historical asset as well as a holiday and tourist resort and this is entirely due to its history and the French-colonial atmosphere which still persists. Many of the old houses and gardens are

1. "Akaroa and Banks Peninsula 1840-1940," Akaroa Mail Co. Ltd.

2. Southern Province Almanac 1865, 51-54.

3. *loc cit.*

being taken over as holiday homes or purchased by retired folk, while numerous new homes are being built. With the influx of retired people from Christchurch, the style of gardening is changing and already the garish Christchurch-style annual garden is making its appearance among the Old World style gardens of the older houses. There is also the danger that the character of some of the charming old houses may be ruined by new owners anxious to renovate them. Some people are obviously very conscious of their heritage and have restored and repainted old houses in an appropriate manner, but one cannot rely upon the good taste of individuals and there should be some form of town planning control to ensure that this heritage is not ruined beyond recall.

Correction. In the last issue of this Journal I stated that Banks Peninsula was the southernmost limit of palms in the Southern Hemisphere. This is not strictly correct as the southernmost palms are on the Chatham Is. which are some 9 miles further south than Dan Rogers Creek on Banks Peninsula.

TROPICAL PLANTS IN NORTHLAND GARDENS

By MARGARET T. M. MARTIN, A.H.R.I.H. (N.Z.), Kamo

FOR too many years the Far North of New Zealand has remained a "terra incognita" to the rest of the country, especially in places south of Auckland. It has not been realised how extensive is the area north of Auckland City; how markedly different is its topography, its vegetation, and especially its climate, which is the key to the great diversity evident in both agriculture and horticulture.

Northland is often referred to as the "Winterless North", and there is a good deal of truth in the statement. Being a South Islander myself I have some experience by which to judge, and the fact remains that by comparison with any part of the South Island, or even of the lower half of the North, this is a most favoured area.

My own garden, situated on a gentle slope in Kamo, about four miles north of the centre of Whangarei, has little frost. In a bad winter there are less than half a dozen, seldom or never consecutive, and at worst barely 5°F. summers are often dry as well as hot, with shade temperatures frequently into the 90s in January and February, and even in April (1969) going up to 87°F. As a result soil remains warm much later than further south, and spring growth comes earlier.

It is not surprising, then, that many plants of subtropical and even

tropical origin are a feature of our gardens and orchards and many more warm-country plants, both horticultural and agricultural, could be grown here, not only for pleasure but for profit also.

In this short article I describe three climbing plants from tropical lands which I have grown outdoors for a number of years, and these may serve to show the great potential we have in soil and climate.

Stephanotis floribunda. This climber belongs to the Asclepias family, comes from Madagascar, and is often called the Bride Flower. In my garden it grows and flowers outdoors in a sheltered position under the eaves of the house, facing north. It has the natural support of a large clump of poinsettias—*Euphorbia pulcherrima*—about 10 feet high, a few stems of which are left unpruned. These give some shade through the spring and summer, and when the leaves fall the stephanotis gets all the sun and the reflected heat from the brick walls behind it.

In summer it is kept well watered and can do with some liquid manure up till flowering time, which is usually in late January and February. This year, owing to seasonal variations, flowering was later and only now (April 17th) have the last flowers been picked. These keep in water for up to three weeks and are much prized by florists, always commanding a ready sale. They are borne on the lateral growths, in fairly large heads of up to a dozen pure white, inch-wide flowers, exquisitely scented and set in a frame of dark green, glossy leaves. The leaves, indeed, are always most pleasing, of heavy texture, evergreen, shining—smaller around the inflorescence, but up to four or five inches long and an inch or more wide elsewhere.

Good soil, well enriched with compost or old cow manure, plus adequate summer moisture, will ensure good growth. An occasional dressing of sulphate of potash will help flowering. Pruning is important. The large tendril-like growths must be kept shortened back so that laterals are encouraged, because it is on these that the bunches of flowers form.

I consider that stephanotis could be grown outdoors in sheltered places anywhere in Northland, with a little skill and attention giving the reward of a handsome plant with a long blooming period.

Petrea volubilis. This climber is from tropical America and belongs to the Verbena family. Often called "Purple Wreath", it is a distinct contrast in habit, foliage and flower to stephanotis. Neither is it as demanding of care, and when established is extremely floriferous, blooming twice a year, first in early summer and again in autumn. It is altogether a stouter and more woody plant than stephanotis and needs a supporting trellis to bear its weight and show its flowers to advantage. Said to be deciduous, it is not so in my garden. The rather boat-shaped leaves are harsh to the touch, about two inches wide and up to five inches long. The flowers,

around an inch wide, are violet-blue, in racemes about a foot long which spring from the leaf axils along the stems. The long tendril-like stems which grow at an astonishing rate in spring and again in early autumn, must be shortened back as they appear, as it is from the lower parts that flower buds spring. If this shortening is well attended to, a great profusion of blossom results, and a well-established plant in full bloom is a glorious sight, both leaves and stems almost hidden by the flowers. The flowers are unusual in that both calyx and corolla are exactly the same beautiful violet colour, and when the corolla fades and drops the calyx remains for some time longer.

My plant faces east-north-east and so gets sun most of the day. It is about eight feet high and as much across and covers a trellis which stands about a foot away from the house wall. It stands much drier conditions than *stephanotis*, does not need such rich soil, but seems to benefit from some dressings of sulphate of potash.

Phaedranthus buccanotorius. That rather appalling name was wished on to a plant formerly known as *Bignonia cherere*, in spite of which it has quite a simple and descriptive meaning—a gay flower of trumpet-like shape.

A native of Mexico and rather a rampant grower, it does well for me on a long (42ft) trellis right out in the open garden. The trellis runs roughly north and south and receives the sun one side or the other all day. It is of galvanised wire—actually it is the reinforcing usually found in cement work—is 7ft high and firmly attached to concrete posts. The plant, slow at first, now after about seven years covers about three-quarters of the length and has to be severely pruned to promote flowering. long growths must be shortened, weak ones cut out, and roots pruned from time to time.

It has two flowering periods, early summer and again in autumn. The flowers are spectacular both in form and colour. Borne in racemes, they are four or five inches long, trumpet-shaped, deep velvety red with a flush of yellow inside the throat. When turned about they have a two-tone effect like the shot silks of my earlier years. The buds are especially beautiful with an architectural form that is most appealing.

No manures are needed once the plant is established, but the exuberant growth must be controlled both above and below the ground.

PROCEEDINGS DOMINION CONFERENCE 1969—AN APOLOGY

It is with the deepest regret that Dominion Council, Dominion Secretary and your Editor have to advise that it has not been possible to publish the proceedings in this issue. They will be published in the September 1969 Journal.

A WARM WELCOME IN THE DEEP SOUTH

TRUE SOUTHLAND HOSPITALITY was the lot of delegates to our 46th Dominion Conference. Though fewer than at more central venues all who attended found the effort well worthwhile; many took extra days away to enjoy noted beauty spots such as Stewart Island, the Southern Lakes and Milford Sound. They were amply rewarded.

On the eve of the Conference a reception was held by the Invercargill Licensing Trust at their Waikiwi Tavern and our delegates and those to the Parks and Reserves Conference were welcomed by the Chairman of the Trust and the Civic authorities, being entertained in true Southland style. Advantage was also taken of the Conference to stage a Flower Show and Floral Exhibition under canvas.

Conference proceedings were opened on the morning of the 27th February by His Worship the Mayor of Invercargill, Mr N. L. Watson, and the highlight of this session was the conferring of the Institute's highest award, the Associate of Honour, upon Miss J. M. Dingley, Plant Diseases Division, D.S.I.R., Auckland (see Citation, p.69, March 1969). It was to the regret of all that the award to Mr Mervyn Evans had to be made posthumously.

Following completion of the formal business in the afternoon we were addressed by Mr S. C. Challenger in his usual forceful and challenging manner. His talk, 'Landscape Architecture, a New Profession', was suitably reinforced by carefully chosen slides. Mr Challenger, who is in charge of the new course in this subject at Lincoln College, pointed out that up to the present we had only called upon the landscape expert to tidy up after the damage had been done and this was a totally wrong approach. In Europe, North America and other enlightened countries it was well established practice to call him in even before pencil was put to paper. He was there from the very inception of a scheme and so full weight and consideration could be given to this aspect of planning. Only now had we seen the light and there were now five landscape architects in New Zealand, of whom three were in practice. With our first school at Lincoln it was hoped the situation would steadily improve.

The Banks Lecture was delivered in the evening by Mr M. R. Skipworth, B.Sc. (Fors.), A.H.R.I.H. (N.Z.), N.D.H., now of Wanaka, on 'Landscape and the Tourist Industry'. His straight-from-the-shoulder address was graphically illustrated by colour slides forcibly reinforcing the points he had made. Following this Mr R. Syme of Hawera drew our attention to the very present threats to noted beauty spots by our relentless quest for the last Kw of power from our hydro schemes. In particular he referred to the projected raising of lake levels at Te Anau and Manapouri. Money had been allocated to repair the damage to the



Some delegates to the Dominion conference at Anderson Park.

lakes' shores but not only was it inadequate but much damage would be irreparable. Surely no one left this session without serious food for thought.

On the Friday morning we were the guests of the City Parks and Reserves Department and taken on a tour of Invercargill beauty spots. The Director of Parks and Reserves, Mr G. A. R. Petrie, A.H.R.I.H. (N.Z.), explained that his department was most fortunate inasmuch as Mr Thompson, who was in charge of the original laying out of Invercargill, reserved substantial areas for parks and recreation. He also personally transferred valuable property to the city fathers and saw that the city was endowed with farmlands which provide revenue for the further development of parks and reserves.

The tour of the newer reserves and of the older ones such as Anderson's Park, Thompson's Bush, etc., plus a visit to Peter Beadle's studio culminated in morning tea at the Tea Kiosk at Queens Park, inspection of the statutory donated to the city nearby and finally an inspection of the horticultural treasures in the Winter Gardens.

All in all, though the weather during our stay in our southernmost city was not the best this was more than compensated for by the overwhelming hospitality of Invercargill's people.

GROUND COVER IN THE CHRISTCHURCH AREA

By N. W. DRAIN, N.D.H. (N.Z.), Christchurch.

(Being a thesis submitted for the National Diploma in Horticulture.)

INTRODUCTION

The terms ground cover and ground cover plants are being increasingly recognised and applied by horticulturists, landscape architects, architects and engineers throughout the world.

Though ground covers, other than plants will be dealt with in a separate chapter, the main part of this work is concerned with the treatment of land areas requiring surfacing using plants as an alternative to grass, or concrete, or other materials commonly used, and where such areas would be better served by the use of these plants.

So as to be able to properly evaluate the subject of ground covers and relate it to other relevant factors brief mention will be made of landscape study in its broadest concept.

There is at present in the world a steadily growing interest in the orderly planning and development of man's environment and an increasing awareness that sound planning of our living spaces is essential for the present and future wellbeing of man himself.

The study of the landscape together with landscape planning and development as a necessary part of this desirable environment has come to be recognised as a subject on its own right, demanding equal consideration along with such aspects as engineering, architecture and town planning. In fact, it may be stated that landscape appreciation is fundamental to all the arts and skills that may be utilised in establishing a healthy environment.

Landscape may be defined as the whole of the outdoor environment in both town and country. At one extreme we include paving and other forms of surfacing, the planting of open spaces in towns and around building and all the other elements of townscape used to provide both function and beauty. At the other extreme are the problems of conservation and management of coast and countryside, together with design in town development, industry, and recreation.

Though a considerable number of plant species have been appreciated and used by man for some thousands of years, their value has been assessed principally in terms of food, shelter and clothing. In more recent times with the progress of civilisation and the realisation of cultural values, there has developed a considerable knowledge of, and appreciation for those many plant species useful to man for purposes other than his basic needs.

The plant kingdom consists of myriad forms, each performing a function in the world of nature, while some contribute towards the

landscape character also. A considerable number of species, by virtue of their growth habits and the functions they perform in stabilising vast areas of the earth's land surface, may be termed ground cover plants.

The study of ground cover plants in relation to landscape development is concerned with such practical problems as the control of erosion, dust, mud, heat, glare, weeds and surface drainage, and also in providing pleasing texture and ground patterns in association with the buildings, carriageways and other architectural and engineering forms. These factors will be dealt with in subsequent chapters.

It is proposed in this work to illustrate methods of ground surface treatment, as it applies to landscaping, and to draw particular attention to those plants which up to the present, have shown considerable merit as ground cover materials in the Christchurch area.

CHAPTER 1

BRIEF HISTORY AND DEVELOPMENT OF GROUND COVER

There is evidence of ground cover plants having been used for decorative purposes in gardens in England as far back as the seventeenth century, when fragrant and attractive low growing herbs were used extensively for lawns and walks. Many of these plants were what are commonly known today as carpeters—plants that lie flat on the ground and are capable of forming a dense mat. They were selected for their fragrance, colour of flowers and foliage.

For centuries the English have been among the world's best gardeners, and from early times fostered an interest in and an appreciation for a wide range of plants, many of which are in cultivation today. Some of the more famous and commonly grown of these plants included the English Ivy (*Hedera helix*) and Periwinkle (*Vinca minor*), both of which have been cultivated from ancient times. Their usefulness as ground cover was early recognised and they were used for this purpose in some of the early English gardens.

In Elizabethan times, Francis Bacon wrote of little gardens of irregular hillocks planted with wild strawberries and other herbage of copse and hedgerow.

Another plant which has long been cultivated in gardens, and is valued today as a ground cover, is *Hypericum calycinum*, introduced in the seventeenth century.

During this century there has been a considerable upsurge of interest in ground cover plants in the gardening world. In the U.S.A. in particular, they have been extensively employed in the landscaping of private homes, commercial and industrial areas, public buildings and highways and their use is being maintained at the present time.

Development in New Zealand

English ivy and Periwinkle are found growing as ground cover in quite a number of older gardens in this country and it is evident in some cases that these were planted for this purpose, though mainly on banks or under trees. This no doubt followed the pattern of many English gardens.

However, it is probable only during the past ten to fifteen years, that any serious attempt has been made to investigate the potential value of various plants for use as ground cover in modern landscaping.

A considerable amount of research has been conducted by the Landscape Division of the Ministry of Works, where a fairly wide range of plants have to date been tested for use on highway embankments, median strips and public areas generally.

Local and other bodies have for a long time been aware of the value of certain plants for specific purposes, such as sand binders on coastal areas, to mention one example, but the broader functions of cover plants generally, and their place in total planning is perhaps only now being clearly recognised.

CHAPTER 2

CLASSIFICATION OF GROUND COVER PLANTS

Before attempting to classify ground cover plants, some mention will be made of the possible treatments of exposed ground surface as applied to landscape development in urban and suburban areas particularly.

Choice of surfacing materials must first be considered in relation to the use a given area will be subjected. In any development scheme designed for intensive use, ground surfaces cannot be left to nature, because a natural cover of rough grass, weeds and dead leaves, is seldom suitable for such use. This means that the use must be analysed and planned before surfacing materials are chosen. Such planning will often produce patterns composed of several basic types of surfacing: e.g. paving for heavy traffic, lawn for less used areas and ground cover plants for areas in which no one will walk. These patterns of surfacing can be more than functional. They must be considered important in the concept of basic design, hence the emphasis on both use and design in ground covers.

Decisions on surfacing are also related to decisions on fundamental elements for rough grading must allow for either thickness of paving or depth of topsoil, this latter factor being relevant to the choice of planting material.

HARD PAVING

Hard paving is the most costly of surfacing methods but it does require the least maintenance. It stands the most wear and tear and provides good control of surface drainage. However, it does absorb heat and sometimes creates glare and this can be a problem particularly in large areas. Various materials may be used, these being listed in Chapter 6. Choice of materials should be governed by the forms and textures of related landscape and building elements.

SOFT SURFACING

Under certain circumstances it may be desirable to stabilise soil by the use of such materials as crushed rock, decomposed rock or gravel. These are dealt with on the section on Scree Gardens in Chapter 6.

Any planted ground cover able to withstand a good deal of pedestrian traffic may be defined as lawn. However, lawn is generally thought of as a planting of grass, maintained as a carpet by regular cutting. When mowed properly and often enough, when watered and fertilised grass is probably one of the best ground covers, though it does require constant attention. For surfacing large areas, particularly if flat or gently sloping, it is probably the most satisfactory cover from the point of view of appearance and in performing the function of reducing glare, dust and noise.

On steep banks, narrow strips, etc., the use of grass which requires mowing is liable to be a waste of both material and labour. In fact, it may be impossible to maintain such areas satisfactorily at all. Other factors which may limit the use of grass include lack of light, insufficient or excess moisture, unsuitable soil, unsuitable climate.

GROUND COVER PLANTS—DEFINITION

Basically, any plant, the horizontal dimensions of which tend to exceed its vertical, is potential ground cover material, if used in the right place. In practice however, a number of factors have to be considered before deciding on the suitability or otherwise of these potential ground cover plants, particularly when dealing with large areas. Perhaps the most important of these factors may be stated as follows:

Ability to increase rapidly.

Ease of propagation.

Ease of handling in quantity,

and such matters as tolerance of shade, sun, dry soil, wet soil conditions, etc., should also be considered.

Classification and Selection

There are several hundreds of species of plants in cultivation today which may readily be classified as ground cover. From this vast selection some attempt will be made to narrow the choice of material to those species and varieties which have proved to be the most reliable, useful and attractive under the varying conditions that these plants, used as ground cover, may be subjected to.

With the increasing awareness, particularly within government and local bodies, of the value of ground cover plants in urban and rural development, there is a growing need for information on all aspects of the subject, from site planning to after maintenance. Lack of success in establishing ground cover planting in any given area, can usually be attributed to a lack of knowledge of one or more of the following requirements:

1. Climate, including moisture and temperature.
2. Light intensity.
3. Soil type.
4. Drainage.

It is obvious of course that existing climatic and soil conditions will govern to some extent the selection of material but such aspects as relative size of area, gradient, availability of plants, growth rate, growth habit (e.g. suckering, mat forming, etc.) and freedom from pests and diseases, are equally important.

The growth habits of ground cover plants are particularly important to consider and a knowledge and appreciation of these habits will greatly assist towards choosing the correct plant for any given situation. Plants listed below have been grouped according to these growth habits and the value of this may be readily seen by comparing for example the superiority of a plant with creeping stems that root at every joint, with a cover plant not possessing this characteristic, for controlling erosion on steep banks. These lists provide a few examples only from each group, but numbers should be sufficient to emphasise the importance of these distinctions.

(a) Shrubs which make small dense bushes, linking up together after several years, (b) those with runners which root in the ground as they spread, (c) those which spread by means of underground roots, and (d) prostrate shrubs.

Examples include the following:—

- (a) *Calluna vulgaris* and varieties, *Erica carnea* and varieties, *Erica darlyensis*, Hebes—numerous species and varieties, particularly amongst the small leaved types.

- (b) *Carpobrotus edulis*, *Coprosma kirkii*, *Cotoneaster microphylla*, *Euonymus radicans variegata*, *Hedera helix* and varieties, *Vinca minor*.
- (c) In this category are plants that are not only invasive like (b) but are troublesome if they spread and root into other things. They are better employed in large areas, under trees or where they can be confined by concrete or similar barriers. The following include some of the better known varieties: *Hypericum calycinum*, *Mahonia aquifolium*, *Pachysandra terminalis*.
- (d) The conifers provide in this group a number of excellent cover plants particularly among the junipers. The following list contains a few of the better known species and varieties: *Juniperus communis prostrata*, *Juniperus horizontalis* and varieties *douglasii* and *plumosa*, *Junipers sabina tamariscifolia*, *Rosa wichuraiana*.

Further aspects of ground cover plants will now be considered. The following lists are assembled not merely to provide a ready reference to selection of plants for any given situation, but also to underline important factors to be considered in the selection of material. Ground cover plants generally fall into one of the following categories of either shrubs, sub-shrubs, herbaceous perennials or annuals. However, it can be said that the best cover plants are found amongst the shrubs and sub-shrubs, and it is with these that this work is primarily concerned. Detailed information on some of the plants listed below, is contained in Chapter 4.

Plants That Increase Rapidly

Ability to increase and spread rapidly is a very important factor to consider when choosing a cover plant. Probably the best varieties are those which are able to increase by runners or underground stems (stolons), as it is this growth habit that is most conducive to rapid coverage: *Hedera helix*, *Hypericum calycinum*, *Carpobrotus edulis*, *Coprosma kirkii*, *Vinca minor*, *Rosa wichuraiana*.

Evergreen Ground Cover

Though quite a number of plants which may be used as ground cover are either deciduous or herbaceous in character, evergreen varieties are unquestionably the ideal choice for many situations. Apart from the obvious advantage of being attractive at all seasons, they usually provide the best control of soil erosion: *Calluna vulgaris* and varieties, *Coprosma kirkii*, *Cotoneaster conspicuus*, *Erica carnea* and varieties, *Erica darlyensis*, *Euonymus radicans* and *variegata*, *Hedera helix*, *Hypericum calycinum*, *Juniperus sabina tamariscifolia*, *Mahonia aquifolium*, *Pachysandra terminalis*, *Thymus serpyllum*, *Vinca minor*.

(To be continued)

DISTRICT COUNCIL NOTES

NORTH TARANAKI

WEEK-END IN TAUPO: Taranaki's Anniversary week-end holiday provided an opportunity for 37 members to make a cross-country tour by bus to Taupo where we were entertained by members of the various horticultural groups there. The route chosen was an extremely interesting one which others may like to follow sometime. Leaving the main highway at Mahoenui we followed the Paekaka road to Aria visiting the Wairere falls power station on the way. From here to Mokaiti the rolling country-side was most attractive. The next places of interest were two towns with rather sad aspects, the deserted milling town of Mangapehi and Benneydale where the coal mines have closed down. Between Benneydale and Mangakino the Pureora forest area was well worth the detour to inspect it. Along this road, too, the large areas of rewarewa (*Knightia excelsa*) glistened in the sunlight. From Mangakino to Taupo the route of the Waikato river was followed. One of the most notable features on the way was the regeneration of plant life around the various power stations and the softening effect it had on the harshness of these concrete structures.

Around Taupo itself our most lasting memory will be of the amazing progress made in such a short time in the development of the Waipahihi reserve. The enthusiasm of those responsible under the leadership of Mr Ken Young has to be experienced to be believed. This place must surely become one of the botanical highlights of New Zealand. The route home via Western Bay road and the Victory highway to Taumarunui, Ohura, Tangarakau gorge, Whangamomona and Stratford provided extensive areas of native bush. This was really a most interesting trip.

The first evening meeting for 1969 was held in March. Demonstrations and discussions were the order of the day. This showed clearly what a wealth of talent we have in this district. Among those taking part were Mr Douglas Elliott, F.R.I.H. (N.Z.), demonstrating planting bulbs in containers. This talk was not only instructive but also most entertaining. Mr Ken Davey spoke on the control of weeds and moss in lawns by spraying. Mr P. Allen demonstrated the planting of potted plants, while under the able guidance of Mr A. D. Jellyman a team of young horticulturists showed the preparation of cuttings for planting, and illustrated the wrenching and preparation of large plants including shrubs and trees before replanting. Mr C. I. McDowell illustrated his talk on landscaping with slides of Auckland gardens where the garden was included in the overall planning and became an integral part of family living. Another really successful evening.

Our final day trip before the winter season was to local gardens and parks. At the garden of Major and Mrs G. T. Seccombe members were extremely impressed by the orchard where Major Seccombe grows Kiwi fruit (Chinese gooseberries) and Tamarillos for export. These fruits appear to grow very well along the coastal strip of North Taranaki and the industry seems certain to expand. I understand that one man can manage up to ten acres with assistance only at harvest time and make quite a good living.

At our evening meeting in April Major Seccombe gave a most interesting address on the growing of these fruits and the future prospects for the industry. He considered the export potential to be most encouraging to growers. At the April meeting, too, Mr J. P. Rumbal of Duncan and Davies nurseries, talked on ornamental grasses and grass-like plants including flaxes and bamboos, and their uses as decorative plants in the garden.

At this meeting certificates for completed sections of the N.D.H.

examination were presented to Mr B. S. Pollock (Junior) and Miss Judith Cowan (Intermediate). Mr Pollock also received the Memorial prize for the highest marks in Oral and Practical Stage I.

WAIKATO

There is a great wealth of Australian native plants that can be grown in the Waikato and probably many other parts of the country, but apart from the limited range available from nurserymen we see all too few of them. An enthusiast who has made several visits to Australia to study them, Mr K. Butler, gave a most interesting illustrated talk on this subject at the first meeting of the year in February. In his garden near Cambridge Mr Butler has raised many of these plants from seed, and there are indications that several will grow well here and make valuable additions to our gardens. Also at this meeting Mr G. Mander, a Hamilton nurseryman, gave a demonstration of budding, and Mr and Mrs Mortensen, of Hamilton, staged a display of practically all the cultivars of fibrous rooted bedding begonias now available. These plants grow very well here and this season there have been some striking displays in the public gardens in the Waikato as well as very many home gardens.

Roses are very much in the news in the Waikato now as a planting campaign is under way so that they will be available in abundance for the World Rose Convention to be held in Hamilton in 1971. Particularly in Te Awamutu and Hamilton the Municipal Councils and Rose Societies are carrying out extensive planting schemes involving large new areas of rose gardens and many thousands of plants. At the March meeting we had the pleasure of hearing Mrs G. Hocking, of Palmerston North and Mrs J. C. Pollock of Hamilton, give their views and impressions of the London Rose Convention in 1968.

As a rapidly growing City Hamilton is currently establishing many public gardens, parks and reserves, and the development of these was explained by the Chairman of the Hamilton City Council Parks and Reserves Department, Dr G. S. D. Heather. These plans are ambitious and when they come to fruition Hamilton is going to be a city of outstanding horticultural interest. The City Council is to be commended for its long term views, and Dr Heather's explanation of these was greatly appreciated.

Indoor plants do so much to brighten our homes and other buildings, and several of the newer importations were discussed at the April meeting by Mr D. Goudie, of Zealandia Nurseries, Auckland. He illustrated his most interesting talk with slides and some extremely well grown plants, and gave good advice on their treatment after they leave the nursery.

A rather cool but moist Spring and early Summer, followed by favourable growing conditions through to Autumn has resulted in trees and shrubs in the Waikato nurseries looking very well this season. The local interest in horticulture continues to grow and these plants will all find their place in the many new gardens to be filled this season.

WHANGAREI

FEBRUARY

The February meeting was marked by an unusual departure from strictly horticultural interests by a lecture on the Marine Biology of the Poor Knights Islands by Mr W. Palmer, of the Whangarei Underwater Club, whose members pursue various scientific hobbies, as well as the ordinary pleasures of underwater activities. These include photography, conchology, and marine biology generally, together with special interest in corals, sponges and seaweeds, besides the creatures of the deep.

Mr Palmer introduced us to specimens from all these diverse sections, and also to some of the "land-lubbers" with which we are more familiar. His underwater colour photography brought home to us in a way nothing short of actual participation could do, the extraordinary beauty of the deep sea world, the variety of its inhabitants, their interest and value—commercial as well as scientific.

New shellfish, new sponges, and various other forms of sea life have been discovered around the Poor Knights. Mr Palmer said that the clearness of the water in the area was extraordinary, and visibility was good up to 300 feet, whereas in New Caledonia it was good only to 30 to 40 feet. Colour in the Poor Knights was also much more intense and this was clearly shown by a comparison between pictures taken in both places.

Many discoveries have been made not only of entirely new species, but of others not previously found in these waters and more common in tropical areas. Colours in sponges and other forms of marine life had to be seen to be believed. In particular, that of a starfish—*Diadema*, was brilliant scarlet.

A find which could well be of commercial importance was that of the Spanish lobster, a frozen specimen of which was handed round to members for inspection. Other finds, either new or previously unknown from this area, were a tropical Frog shell, Helmet and Cowrie shells, and perhaps most beautiful of all, a sand snail with a shell of glistening white porcelain.

Pictures of a reef garden in New Caledonia appeared like a well-packed rock garden, with great diversity of seaweeds, sponges and coral, but none so brilliant in colour as those pictured around the Poor Knights.

Members were impressed with the complicated diving and photographic apparatus seen in action under water, and with the value of the accurate information gained. Pictures of shore activities of scientists at work, and also of tuataras at home, were enjoyed. We were surprised to know that tuataras, which we think of as quiet, torpid, and rather inoffensive creatures, were heard and also seen having fights.

Altogether this was an inspiring lecture and one that made us realise that once again our own country, and indeed, our own Northland, provides both scientific interest and tourist attractions, scarcely to be equalled elsewhere. Mr Palmer is to be thanked and recommended for helping us to *Know New Zealand*.

DISPLAY TABLE

Perhaps the most unexpected specimens to appear on the table were some heads of an introduced plant—commonly called teasel, a native of Europe and North Africa, places which have presented us with quite a few undesirable weeds, often in packing and ships' ballast. This one belongs to the scabious family, as a glance at the seed head will show. The spiny heads of *Dipsacus fullonum* were formerly used for teasing or raising the nap of cloth, a process now achieved mechanically. The specimen shown was *D. sylvestris*, and when dried is used in floral art.

Another unusual specimen was brought by Mrs Cates and this also was a foreigner from Texas and Mexico, sometimes appearing in Northland gardens and often called unicorn or elephant plant, on account of the long spur occurring at the back of the flower. There are two species, *Martynia fragrans*, which is scented, and *M. proboscidea* (with a proboscis), both herbaceous, and with mauve-purple flowers. Their family and generic names honour John Martyn, a Professor of Botany at Cambridge, 1699-1768.

Still another plant, more usually seen in its red colour, was *Amaranthus caudatus* var. *albiflorus* (with white flowers), one of a large family of annual plants mostly from the tropics—effective in floral arrangements.

Mrs Reynolds brought a small plant of *Alseuosmia quercifolia*, which, though only a few inches high, was in flower and exuding that unmistakable fragrance which is a sure guide to its presence in the bush.

One of the newer Hawaiian Hibiscus, 'Dr. Zabuki', grown by Mrs Cates, was of most exceptional beauty with orange frilled petals centred by a deep red eye. It has proved hardy and reliable. *Vitex agnus-castus*, a shrubby relative of our puriri, is a good blue-flowered shrub (autumn) of 6 feet or more, with flowering spikes of three feet. It is deciduous and must be pruned after flowering.

Alberta magna, now in full bloom, needs a warm spot, good soil, and gives a long season of colour, first with its scarlet blooms, and after their fading, the red bracts which succeed them. *Calliandra portoricensis*, a West Indian shrub of 6 feet or so, produces quantities of thistle-down-like flowers which open towards evening and give off a delightful perfume. A plant in Mrs Martin's garden has produced seedlings which flower in their second year. A plant of the pea family, it may also be grown from cuttings.

Phoenocoma prolifera, a most striking plant in habit, leaf and flower, comes from only one area in the south of South Africa, and is the only member of its genus. Inclined to be sprawling in habit, it needs very dry conditions in summer. Its leaves, like small, grey-green beads, cluster along the branches, from the tips of which come the bright cerise flowers, tiny in themselves but surrounded by shining, papery bracts—showy and everlasting. Good drainage, which is essential, may be provided by a deep layer of fine scoria.

Hybrids of *Lilium speciosum* with *L. auratum*, and hebe hybrids raised by Mr Blumhardt using the bright pink *Hebe* 'Raines Beauty' and what is probably *Hebe longiracemosa* were of interest to plant breeders. *Vallotta speciosa* from South Africa and *Beaufortia sparsa* from Western Australia added a note of bright colour—the former often called Scarborough Lily, and the latter needing rather more moisture and better soil than commonly supposed.

Vinca rosea from the tropics is a herbaceous plant very suitable for a warm spot in the garden, or for pot culture. Its brilliant night colour is a distinct advantage for show purposes. It is a tropical relative of the common periwinkle.

QUESTION SESSION

Question: What has caused the photinia leaves to dry and turn brownish underneath?

Answer: Thrips. Spray with Malathion, Lindane or D.D.T. emulsion.

Question: What can I plant for a good display in September?

Answer: Many bulbs such as daffodils, iris, freesias—annuals such as polyanthus, cinerarias, stocks, Iceland poppies, calendulas and schizanthus, sweet peas, and for shrubs, camellias and magnolias.

Question: How can I prune a stephanotis?

Answer: Cut back strong shoots slightly and weak ones freely.

WHANGAREI

MARCH

We are privileged to have for our speaker at this meeting Mr E. F. Butcher, N.D.H., who has recently been appointed Superintendent of Whangarei's Parks and Reserves.

Mr Butcher's subject was the Landscaping of Highways, with special

reference to the newly constructed deviation between Wairakei and Taupo, and to show how the principles of landscaping apply to other highways in New Zealand. The country, being so richly endowed with natural beauty in many varying forms, any landscaping should tend to preserve or enhance those features. However, as population and traffic increase, urban areas become more crowded and industrialised, the landscape architect must give attention to ameliorating unpleasing prospects.

The general public cares little about the design or cost of the road unless it interferes with private interests, and takes for granted that it will have a good surface. They will notice an untidy roadside or a monotonous view, and have a keen sense of the beauty of the highway they travel. New Zealanders who wish to become Landscape Architects must go overseas, usually to the U.S.A., where there is one Landscape Architect to every 20 Architects. (A course in Landscape Architecture is now available at Lincoln College. Editor.)

It is essential to have data relating to technical research in N.Z., collected and published, so as to avoid duplicating of work on Landscaping of Highways. Some of the points Mr Butcher listed for study in relation to highway landscaping were—Microclimate in relation to landscape; Noise control and acoustic privacy; Damage and effect of pollution on plant material; Soil compaction and its treatment; Hydrology in relation to water tables and trees; Wear and tear of people and vehicles on the landscape, and Weed control. A West Australian Government Landscape Architect who toured N.Z. in 1966 observed that most of our landscaping had been **remedial** and therefore not done as effectively as if it had been planned right from the beginning of a project, and carried out in **conjunction** with the construction. Too often it has been done afterwards and confined to a row of trees or a few clumps of bushes along the roadside. The landscaper should not be asked to decorate a partially completed job, but to form part of a design team from its very earliest conception. The result should be an attractive and functional job which needs no beautifying.

Though some of the Auckland motorways were opened over a decade ago their appearance is disappointing, with most of the planting confined to narrow median strips of small garden shrubs often competing with rank growth; whilst the suitability of existing plant material could be blended to harmonise dis-similar forms and produce a natural appearance, and could be used to screen industrial ugliness from view. The whole section of the motorway from Newmarket to its southern end calls for a revision of its landscape treatment. Its detailed treatment would provide data for future work relating to plant species, time of planting, size, exposure, drainage, soil, and give statistics of reliability, rapidity of growth, and adaptability.

In the Design Process many factors must be considered, besides the mere route. Physical features such as topography, terrain, soil types and land values must be the **joint** concern of highway engineer and landscaper. Care must be taken to conserve natural features of value, such as trees, streams, views and historic sites. If landscaping is done **during** construction there will be opportunities to enhance or develop unexpected views as they occur. The treatment of earthworks or rock faces, the preservation and use of top soil, as well as of the existing trees, are often better managed during construction than later. Scale is important in planning of highways or in the use of natural features. Trees in broad groups are more effective than as individuals.

The alignment of the road should give the motorist more time to look at attractive views. The right choice of plant material can enhance a view and native plants were generally more suited to their environment than exotics.

Rest areas and Look-out spots should be chosen for their suitability—not in

cold or exposed places, such as the Desert Road. All should have proper facilities, water, drainage, and toilet facilities which should be well maintained, as also the area itself which should, if grassed, be kept mown and neat, with provision for rubbish disposal. One of the most important considerations in planning roads is the shape and finish of the earthworks slopes, whether of rock, sand or clay. Modern methods provide rapid ways of stabilisation, and where planting is attempted it should blend with existing vegetation with due attention to plant ecology—the natural associations in which plants group themselves. Long straights should be avoided, and odd pockets of otherwise useless land planted with trees to create interest and avoid monotony. The use of exotics in the midst of natives is often a mistake, but banning them altogether may be equally so. Skill is needed for a successful blending. Many considerations are necessary for the successful treatment of wayside batters, and a variety of methods are useful—grasses, brushwood, wire-netting and hay making a holding base in which plants may be set, or natural regeneration will occur.

Finally, Mr Butcher gave us some details of the reconstruction of the Wairakei-Taupo state highway. When choosing the route thought was given to the scenic aspect as well as to the traffic, the materials, the availability of land, and drainage problems. A high route was chosen which gave attractive views of the Waikato River, of Taupo and the Lake, as well as of the mountain view from the Control Gates Hill. Large, high-speed curves avoid monotony, and give the motorist constantly changing views of mountains, lake and river.

A look-out point has been developed and planted with kowhai and kanuka to blend with the existing shrubs and emphasise the view. Local volcanic rocks have also been introduced for added interest and to give a lead into the Look-out.

There is also a six-acre reserve being developed above the Huka Falls in an area which had been excavated for pumice. Grass has been sown and trees planted. Exotics have been selected to blend with those already there, species chosen being *Pinus patula*, *P. monticola*, *Populus nigra italica*, *P. yunnanensis* and *Quercus palustris*.

A direct link will connect the new deviation with the Huka Falls. Other areas have been formed and set aside for picnic places, with grassing and appropriate planting, so that this highway is an excellent example of the co-ordination of planning and design which has taken place from its very inception, and which will need little decoration or "beautifying."

PRESENTATION OF DIPLOMAS

Dominion Council of the Royal N.Z. Institute of Horticulture forwarded to our District Council Diplomas gained in its 1968 examinations and these were presented by Mrs M. M. Martin, A.H.R.I.H. (N.Z.), a foundation member of the Council.

In presenting the Diplomas, Mrs Martin gave an outline of the course of studies involved; the 6 years required for the examinations, their variety and extent, oral and practical as well as written, and their great value in the horticultural world.

The Junior Certificate was presented to Mr D. S. Anderson, who has done 2 years of his practical training in the local nursery of Mr J. J. Hosking, B.Sc., a former President of our District Council.

The National Diploma of Horticulture, (N.D.H.), was then presented to Mr E. F. Butcher, our lecturer of the evening—a lecture which confirmed the members in their estimation of the ability of one holding this Diploma, which, Mrs Martin said, was highly valued not only in New Zealand, but throughout the English-speaking world.

QUESTION SESSION

Question: Leaves of variegated *HOYA* have become green.

Answer: The variegated form is merely a "sport", not a species, and such forms are apt to revert, especially in shaded and rather moist conditions.

Question: What causes the speckles on a passion fruit?

Answer: Most probably spray damage.

Question: What plants are suitable for a scoria garden?

Answer: The conditions of heat and dryness dictate the kind of plants to use.

In general they should be those which like extra good drainage, warmth and rather dry soil. Small, compact, or low growing plants and those with grey leaves will usually prove successful. Avoid the larger-leaved, heavily foliaged shrubs unless you have beneath the scoria bed a good, deep soil well enriched with compost, and can give strict attention to watering. Any conifer in the 2-3ft class, santolina, small-leaved *Hebes*, *Dianthus spp.*, verbenas, *Nandina pygmaea*, some smaller succulents such as *Sedum* "Brilliant" and the very beautiful, glaucous leaved *S. seiboldii* and its variegated form. Small trailing plants such as pink and cream variegated hypericum and the smaller-leaved ivies are attractive grown over large rocks. *Phormium colensoi* in either its green or red-leaved form is a useful accent plant.

DISPLAY TABLE

The Table presented a quite tropical aspect, with flowers and plants from many countries much warmer than our own Northland. Some, certainly, were grown with the protection of bush house or glass, but a great many were cultivated outdoors with, of course, due attention to warmth and shelter from cold winds.

Mr Waterhouse showed some handsome Bromeliads in pots, and the cut flowers of a number of crucifix orchids—*Epidendrum* species. These so-called crucifix orchids, in allusion to the shape of the flowers, belong to a very large genus containing over a thousand species, some of which are hardy enough to grow outdoors in very warm positions—against a brick wall which gets plenty of sun.

Mrs Reynolds brought beautiful blooms of two species of *Dipladenia*, climbing plants from Brazil, one of which, *D. eximia*, is grown successfully outdoors at Ruakaka, the other in cultivation here, probably the hybrid *D. rosacea*, needing the protection of glass.

Other plants from tropical or sub-tropical countries were *Alberta magna* a handsome, scarlet-flowered shrub from Natal, and belonging to the same family as our native coprosmas; *Russelia juncea*, another handsome scarlet-flowered plant from Mexico, which is a member of the snapdragon family, but of a pendulous habit and flowering stems up to 3ft long; the white *Luculia grandiflora* from the Himalayas, and the starry white blossoms of the bride flower, *Stephanotis floribunda* from Madagascar. These four were all grown outdoors in warm positions in Mrs Martin's garden at Kamo. *Stephanotis* needs plenty of water in summer and to obtain flowers the long tendrils must be well shortened back to induce side growths, which produce the flowers.

The so-called shell ginger, a species of *Alpinia*, was shown and was an especially beautiful specimen, and flourishes in our warm, moist climate. The climbing lilies, *Gloriosa spp.*, which come from Asia and Africa, do well here. Mr Blumhardt showed *G. carsonii* from Central Africa. These plants climb by leaf tendrils and need the support of some small shrub.

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