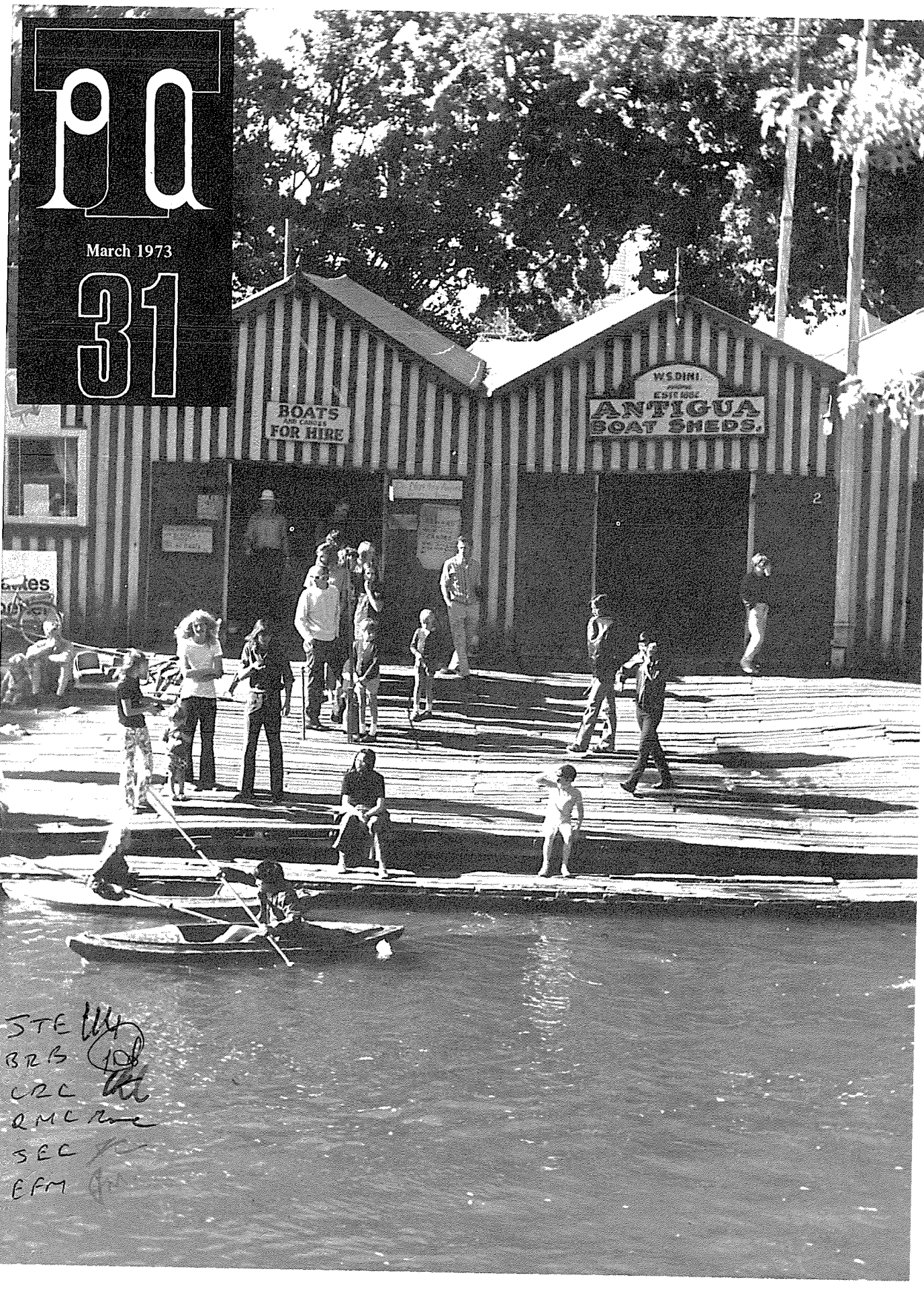


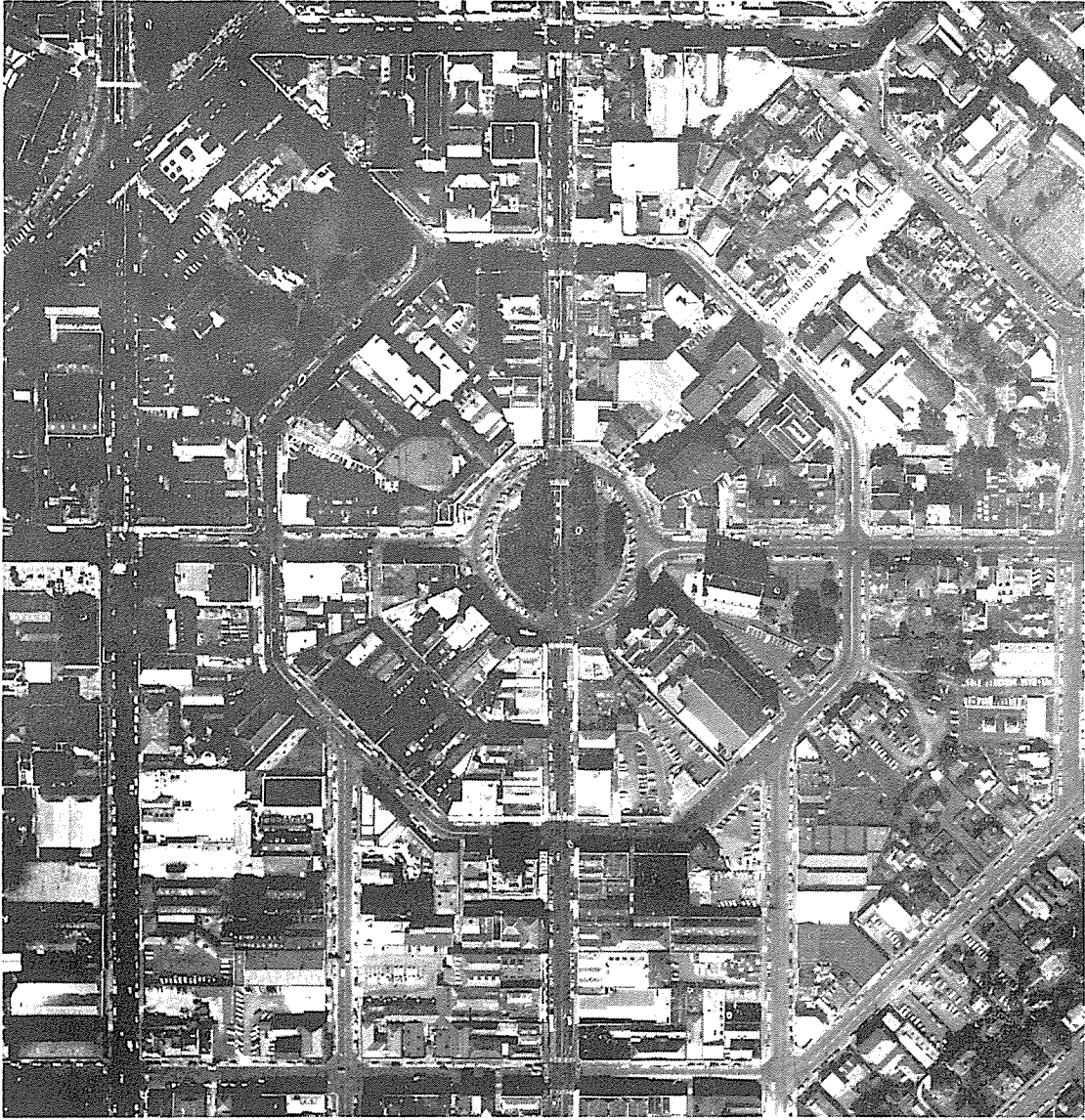
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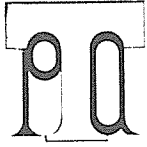
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TOWN PLANNING QUARTERLY

Number 31 March 1973

Editor: J. R. Dart
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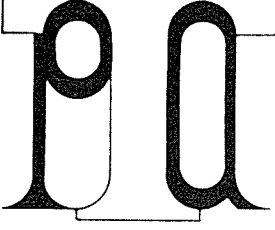
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PLANNING FOR WHAT AND BY WHOM?

In 1971, the Town and Country Planning Act was amended to the effect that local authorities, in addition to their other responsibilities, must now include in their district planning schemes, "a statement of the policy and particular objectives and purposes of the scheme, "and", a statement of the means by which the policy and the objectives and purposes will be implemented and achieved".

The amendment was a result of concern expressed at the Physical Environment Conference of the previous year that few councils had any explicit sense of direction to guide them in the preparation of their planning schemes. As a consequence, it had been difficult for government departments or other local authorities to adequately assess the significance of district schemes as far as their own spheres of responsibility were concerned. It was especially difficult for individuals and groups to pursue the official mind in its meanderings across the map of its district.

It had been taken for granted that all but the most incongruous of land use activities would have its location confirmed in the zone allocation process. Indeed, for built-up areas, all that generally distinguished the map of existing land uses from the zoning map was the notation. The undeveloped parts of the district were a bit of a problem of course, and the range of uses to be covered by each zone, even more. But the Fourth and Fifth Schedules to the Regulations, the planner's friend, were always there to be exactly copied by the un-thinking and the un-comprehending. And so a 1930's and 1940's Anglo-American set of standards was built into the New Zealand planning schemes of the 1950's and the 1960's, condoned by the mutual conspiracy of ignorance between the professionals and the amateurs, the one barely distinguishable from the other.

It is now possible to see clearly the pitfalls that were stumbled into and which afford at least one explanation of the perpetual state of dazed bewilderment that prevailed; but hindsight is not an uncommon gift. Those few who had the rarer gift of foresight raised their lonely voices from time to time but no ears were attuned to the warnings that they sent. For the students of the subject, there was the stepping-stone sequence of esoteric writings in the pages of the American Institute of Planners' Journal or the modest words of Kent in his book, "The Urban General Plan", but for the great majority day-to-day experience had to suffice and they were ill-equipped to analyse that, even had they the inclination. Planning schemes were, after all, ends in themselves; something that had to be done because Parliament had so ordained, like the annual audit, and, as with that analogy, checked not to ensure wise and responsible conduct, but merely to see that nothing illegal had been done. Critics of the appeal procedure as presently followed, must meet the claim that it serves as a valuable testing ground for the components of planning practice. Under Mr Turner's chairmanship, there have been persistent and embarrassing requests for an explanation of the guidelines adopted by councils in the preparation and operation of their planning schemes. Parallel with that set of pressures has been the appearance of articles and books hammering out the message in ever-increasing volume, that planning is not an end-state but a process. In that context, the process further requires the identification of goals and objectives that may be worked towards: the recognition that there are problems which are capable of solution. So have emerged numerous variations of the following sequence: the establishing of

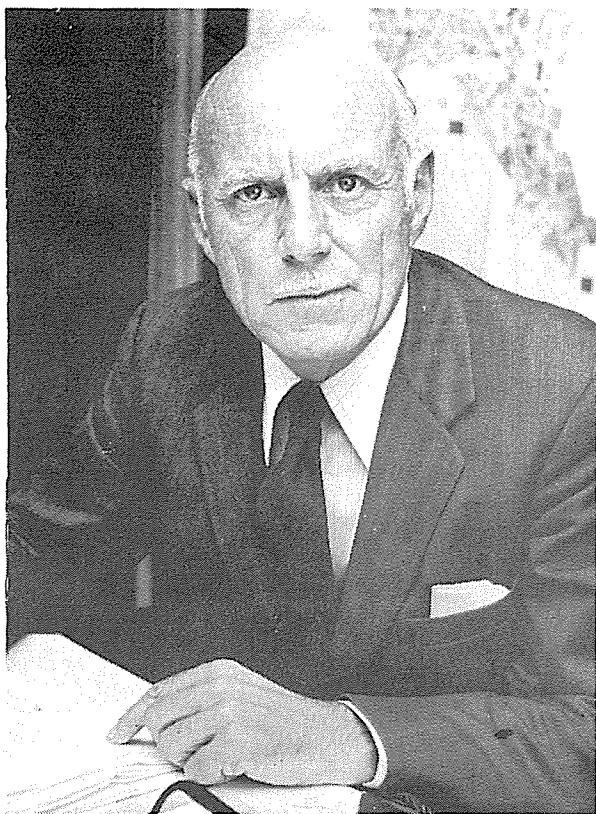
criteria for problem recognition; the identification of problems; the allocation of priorities; the allocation of resources; the drawing up of a programme of action; continuous evaluation.

We have now heaved the planning engine back onto the track, but unless something is also done about the crew, it is liable to jump off again at the first bend. A great deal of money and time has already been spent upon planning schemes by numerous communities, but it has been of the daily maintenance kind that cheap equipment invariable demands. A more careful initial capital investment would produce a more-than-compensating reduction in overheads.

Councils must face up to the fact that land use planning schemes guide, control and influence all physical investment decisions as well as affecting the social and economic well-being of their districts. It is therefore a task that needs specialist skills. It is not something that can be carried out by the clerk, the engineer or the building inspector, as a fill-in operation in between the routine of other work. Nor can a mere lip-service any longer be paid to the need, and demand, for greater and greater levels of public participation. Planning is a full-time job and those local authorities that are subject to development pressures and yet plead that they cannot afford further and skilled staff, need to re-examine their priorities. If they find themselves forced again to the same conclusion, then they need to pursue the alternatives. In the case of a Queenstown or an Ohakune, there is a clear case for government subsidy by way of staff secondment from the civil service, or the like. Where an element of national responsibility cannot be claimed, staff could be shared between adjoining councils, as in the case of boroughs within an urban area, or a borough and its surrounding county in the case of a rural area. Otherwise, there appear to be strong grounds for a move towards amalgamation to ensure an economically stronger unit of local government: one that can carry out its allocated planning tasks in a responsible manner. The peripatetic Local Government Commission, for its part, might begin to turn its attention to the functions of councils in its future pronouncements on optimum size. Parliament was persuaded that the Act required amendment, but that was only the beginning of the task. If our local authorities are, indeed, to move into the world of goal-setting, constraint recognition and resource allocation, Parliament needs also to satisfy itself that existing units are able to cope. It may be right to assume that the appeal boards are willing horses, but we cannot expect them to hammer out policy statements with local authorities throughout the country. More important, hearings of that kind are not an appropriate forum for the determination of community goals.

J. R. Dart.

F.W.O. Jones retires



More than a generation ago, in August 1946, Mr Jones, an engineer, was appointed Planning Officer to the 'ad hoc' Auckland Metropolitan Planning Organisation; before his surname he had a string of now well-known initials, after it, a longer string of qualifications which included AMTPI, but had had relatively little experience for the task for which he was appointed, that of producing an Outline Development Plan for twenty or more local authorities with a population of 300,000 spread over 300 square miles. The plan was completed in 1949 and published in May 1951. Judged by the bulk, weight and prolixity now expected in planning reports, the 1951 Outline Plan for Auckland – 100 cyclostyled pages with a few maps and diagrams – does not seem a great achievement, yet the plan, prepared on the representations of the now long-defunct Town Planning Board, has provided, almost unnoticed by the general public, a sound basis for many of the major physical development projects and changes in

the Auckland Region, a region that more than doubled in population in the following 20 years. Admittedly, F.W.O. Jones had a large technical committee to help him – it included one qualified planner – but his technical staff consisted of two draughtsmen.

The Outline Plan had no statutory significance and no body was committed to it, nevertheless it was a remarkable achievement to secure the approval of it by all those who had had a hand in it, politically and technically. Even more remarkable was the fact that from 1946 until his retirement last December as Director of Planning in the Auckland Regional Authority, F.W.O. Jones continued to be the man responsible for the planning of the region. If, during all this time he produced no statutory regional planning scheme, such as the Town and Country Planning Act 1953 provided for, who shall blame him? The changes of personnel, of mayors, councils, committees, chairmen, chief officers and of staff throughout the region during the ensuing years were too frequent and too daunting to one who knew that the ultimate sanction in regional planning is a political and not a technical matter. Throughout the 26 years, F.W.O. Jones remained the imperturbable, sometimes cryptic though never cynical, chief planner. As Director, he was accessible at all times to the numerous members and officers of local and statutory authorities. On first acquaintance, F.W.O. Jones does not give one the impression of a man able to convince individuals and authorities of the sense of planning **anything**, but convincing he has certainly proved to be, either through sheer, quiet tenacity of purpose when others had little or none, or through skill in using simple planning arguments understandable to the non-planner. Perhaps two of the most notable examples of Jones's main planning objectives, originally set out in 1949, are to be seen in the network of Auckland motorways and the extensive regional scenic reserves. His circle of friends and acquaintances in local authorities and government departments must be extraordinarily large, for he was consulted on practically every matter which fell within the planning field, from the wording of district scheme codes of ordinances to the siting of a steel works or an oil refinery. But wherever he went and no matter who consulted him, he was a man who was ever on his guard lest use of a careless word or phrase should upset the good relations which he endeavoured to foster between the government, local authorities

and the regional authority and between one local authority and another.

Despite the fact that there were very few evenings which he could call his own, F.W.O. Jones willingly gave his time to lecture with unceasing regularity and to set and examine papers at the University from 1958 to 1968; he will, therefore, be known to many ex-students of the Department of Town Planning throughout New Zealand.

F.W.O. Jones will tell you that he began to study town planning when a prisoner of war – he was captured in Crete – to take his mind off the bitter cold and boring misery of camp life in Silesia; released, he sat the TPI examinations in London and then made his way back to New Zealand through the United States. Much of what he saw on that journey through the States, the achievements of the T.V.A., the highway planning and construction and the general pattern of housing developments, influenced his thinking when it came to making the first proposals for the development of Auckland. He continued to look to the States rather than

to Europe for precedents for planning in New Zealand.

F.W.O. Jones does not claim to be the author of any publications yet he was undoubtedly responsible for a series of guides, memoranda, practice notes and reports, enough to occupy a substantial section of an office bookcase, issued from 1957 onwards, first by his planning authority and later by the regional authority. Many local authorities in the region must have been grateful to him for filling large gaps in knowledge of practice and procedure in New Zealand planning.

To anyone acquainted with the disappointments and maddening frustrations of effort, the criticisms and even abuse that official planners so often have to contend with, it is astonishing that F.W.O. Jones maintained interest and enthusiasm in his job for so long; it is even more astonishing that he should retire in good health, as cheerful as ever, after more than a generation of unstinted service in planning the Auckland Region.

R. T. Kennedy.

UNIVERSITY OF AUCKLAND:

Proposed Transportation Course:

Auckland University are at present formulating plans for the commencement of a course in Transportation in 1974. The proposed course will be for one full University year and will be in two parts:

First Part:

- Economic Analysis I
- Urban & Regional Planning
- The Transportation System
- Transportation Engineering
- Applied Statistics and Computing

Second Part:

- Transportation Planning
- Transportation Seminar

and then any two from:–

- Economic Analysis II
- Urban Geography or Transportation Geography
- Public Administration and Law
- Systems Analysis/Operations Research
- Design and Operation of Streets and Highways

or a supervised individual project leading to a dissertation.

Interested Persons should contact –
Mr R. C. M. Dunn,
Snr. Lecturer in Civil Engineering,
University of Auckland,
Private Bag, Auckland.

THIRD ACOUSTIC SYMPOSIUM

Third Acoustic Symposium is to be held at the School of Engineering, University of Auckland, for the three days, August 21st-23rd 1973.

The theme of the Symposium is 'Community Noise'. Dr. Karl Kryter, Director of the Sensory Sciences Research Centre, Stamford Research Institute, California, U.S.A. will give the theme paper and it is expected that the Minister of Health will have considered the report from the Board of Health Committee on Noise. A full programme is planned with papers from Australia and New Zealand. It is intended to make this symposium the inaugural meeting of the N.Z. Acoustical Society. Persons interested in the formation of this Society are invited to send their names to Supervisor of Professional Studies, Centre for Continuing Education, Private Bag, Auckland. G. G. Clark,
Academic Secretary.

DRAGNET

Make No Little Plans – or from District Schemes to Regional Planning. We are indebted to Patricia Rolfe (*Bulletin* 18/11/72) for the following information.

“We noted with interest a statement by the Mayor of the Gold Coast, Bruce Small, that the shadows from tall buildings over Surfers Paradise beach were a very good protection against skin cancer.

We believe that this project follows the previous effort in demolishing the beach in the area by building close to the water line; this reduced the incidence of surfer’s itch and sandfly bites. A third, more ambitious project, is to drain the Pacific Ocean. This could cut down significantly on shark bites and blue bottle stings.”

Environmentalism

In *Fortune* (October 1972) study, T. Alexander notes that “underlying the theories (of some social scientists) has been the dogma of “environmentalism” – The assumption that man is almost limitlessly malleable: through manipulating the extreme conditions of living it should in principle be possible to secure any desired behaviour and any living level of achievement.

The professional reformers – were members of the middle class and their idea was to provide the poor with something more like a middle class behaviour.

[Now] the disappointment with social engineering is leading some social scientists to reconsider their assumptions . . . [and pay] attention to findings in other disciplines . . . which hint at a basic intractability in human nature, a resistance to being guided and moulded according to schemes for improving society”

Policy

The encapsulation of fingzies is sometimes known as policy. The statement of planning policy by Council is now (by S 30 (6) of the Town and Country Planning Act 1953), a statutory obligation. In this connection we can learn from Australia. We are indebted to the *Australian Financial Review* for a description of the difference between Australian policy-makers and nuts-and-bolts men.

“In the mind of Canberra, men in the States are basically simple folk – engaged in putting nuts on bolts as it were – with nothing but the immediate job in front of them, lacking vision and absorbed in their own self-interest.

With condescension they admit people in the States do have to make decisions (a man may even have to decide whether to turn that nut to the right or left!) but it is only in Canberra the real decisions are made; in Canberra all the thinking is done; in Canberra they work on policy. The word “policy” in Canberra is like a whiff of opium to an addict. Even little urchins in kindergarten have been reported to tell their playmates with great pride: ‘daddy works on policy’. If ever the Public Service Board needs to install taped music in its buildings to soothe the nerves of the occupants, its task would be simple.

All it would need would be a single tape, repeating in a soft silky voice over and over again – “Here in Canberra we are all policy men . . . we are all policy men . . . we are all . . . ” In this atmosphere there are marked restraints both on the importation of new firsthand knowledge and on the development of good secondhand knowledge.”

The Planning Process

“A large culture which does not discover a way of structuring rank-and-file participation in, and responsibility for, authority in some

more active and inclusive way than our pallid American reliance upon the political ballot, invites the loss of even that important check upon authority. It is not the use of planning and control that needs to be challenged, but its misuse. The question we face is: how much control, where and how, in order to further the authentic ends of democratic living?”

Knowledge for what?

Robert S. Lynd (1939) (p. VIV) “ there is no place for forgetting that men build their cultures by huddling together, nervously loquacious, at the edge of an abyss.”

Kenneth Burke in *Permanence and Change*

Fingzies

This term originated in Australia from a combination of two names, Fingleton (the former Australian test cricketer) and Menzies (Sir Robert Menzies).

The story (apocryphal for all we know) is that while both were watching a test match and feeling sad about Walters’ batting performance, Fingleton commented that the batting errors were due to “the way Walters places his left leg”. This explanation was repeated later by Sir Robert and later still by many others. Thus it became accepted folklore that Australia stood a decent chance against England “if it were not for the way in which Walters held his left leg”, a statement which, historically, was the first fingzies so called. Subsequently under the heading “The Fingzies flourish amid the Pyramids of Canberra”, there appeared the following definition in the *Australian Financial Review*:

“Fingzies are statements which are originally uttered by someone who knows his subject, and then taken over by someone who does not – but in such a way as to give the impression that the words spring from the depths of his own understanding.”

CASEBOOK

D. R. Hall

Permitted and Not Permitted Uses

Although the decision of McMullin J. in *Attorney General ex rel. Hing and Others v. Codner and Others* (Supreme Court, Auckland, 10 October, 3 November 1972) turned on the facts of the case rather than on any novel points of law, it illustrated several interesting matters of practice in administering district schemes under the Town and Country Planning Act 1953.

Two of the defendants had obtained permission from Northcote Borough, in Auckland, (the other defendant) to use their property as a child care centre. The use was treated as a conditional use by virtue of the inclusion of "boarding houses" in the list of conditional uses for the relevant Residential A zone in the Borough's operative district scheme.

Derek Hall, LLB(N.Z.), DipTP (Auck), (M), is a Senior Lecturer in Town Planning at the University of Auckland.

The relator action was brought by nearby residents who were finding the child care centre incompatible with the otherwise residential nature of the street.

The main issue for the parties was whether a "child care centre" was a "boarding house". As might be expected the learned Judge had little difficulty in holding that it was not, but in doing so pointed out that this question is one of "where to draw the line":—

... enquiry may from time to time have to be made as to whether or not a particular form of accommodation, under whatever name it may pass, is a boarding or lodging house and where the line will be drawn will depend on the particular circumstances of each case.

Of more significance to practitioners, perhaps, was the manner in which the decision showed the need for precision on the part of a council in granting a consent, and the undesirability of relying on undertakings or statements made at the hearing.

One of the proprietors of the child care centre had said, then, that she would not expect to have more than ten children at the centre on any day, and the matter clearly proceeded on that assumption. The council's decision was, however, in the following terms:—

"That the application be granted on the condition that strict compliance with the requirements of all relevant Government Departments relating to the operation of day nurseries be at all times observed and than non-compliance at any time with any such requirement shall entitle the Council to revoke the consent now given."

By the time the action was brought the appropriate authority, the Child Welfare Department, had authorised the keeping of thirty-five children at the centre, and on most days there were 28-30 there. Because of the way they had been misled, sympathy was with the residents, but because

of the manner in which the council's decisions had been given, the Court was unable to find any grounds on which it could give the plaintiffs relief, as far as these circumstances were concerned — the consent had to be construed by reference to the written terms of the consent only. They were, however, taken into consideration when costs were being awarded.

The council had an Ordinance 4 reading:—

"In respect of any use that is not expressly provided for within the district in any of the zones thereof by Ordinance 9 hereof the Council shall determine in which zone or zones (if any) it may be permitted and in respect of that zone or each of those zones whether it shall be a predominant use or a conditional use or in what circumstances predominant and in what circumstances conditional and (where it is predominant) what the bulk and location requirements shall be, and (where it is conditional) subject to the provisions of Ordinance 8 hereof what the bulk and location requirements and other conditions shall be."

This is similar to part of Ordinance II clause 1 (4) (b) of the Suggested Form of Code of Ordinances comprising the Fourth Schedule to the Town and Country Planning Regulations 1960.

It was not clear that the council had actually made a determination under that ordinance and His Honour was content to say that ... the Council cannot validate a land use which is not within the class of uses prescribed for a particular zone by the invocation of Ord. 4.

But also doubt as to the validity of this ordinance was expressed:—

It may be that such a provision is invalid in that it would permit a Council, after its scheme had become operative, to declare a use not in character with a particular zone to be a particular

use in that zone, but it may be that other safeguards within a Code in which it is contained would save it.

Notice that in **Onehunga Timber Holdings Limited v. Rotorua City** (1972) NZLR 349 (see also **TPQ** 30 p. 8) a differently worded clause was applied by the learned Judge in that case without question.

With respect, it is suggested that, on the one hand, Ordinance 4 is invalid because it amounts to a "short cut" method of changing the scheme, and, on the other, that the clause at issue in the **O.T.H.** case merely states that in so many words what any council must consider in deciding whether or not a particular proposed use falls within one of the general classes of use specified in the list of permitted uses for a zone.

The most appropriate course of action for a use that is not provided for is a specified departure application. This was briefly suggested by McMullin J., and is supported in general principle by the Appeal Board decision in **Highway Motors Limited v. Mount Wellington Borough Council** (1972) 4 NZTPA 220 and more specifically in **Auckland Gliding Club Inc. and Another v. Franklin County Council** (1972) Decisions p. 9016.

Finally, the decision provided another example of the fact that the enforcement of planning schemes is not limited to the remedies provided for in the Act, for example in s. 36 (2). By using declaration and injunction, the scheme was effectively enforced by the residents. Both remedies were granted and the use stopped forthwith.

As a postscript, the decision received considerable publicity because of the hardship it caused some mothers, solo parents, who relied on the child care centre to enable them to go to work. Notwithstanding the justifiable opposition of the residents, a nice humane touch would have been given to the decision if the operation of the injunction had been delayed for, say, a week, but as far as is known, this was not even requested.

GOVERNMENT OF HONG KONG

Planning Officers

Two Planning Officers are required for the Crown Lands and Survey Office in the Public Works Department, Hong Kong. Candidates preferably under 45 years of age – male or unmarried female.

Duties may include: the preparation and/or revision of outline zoning plans, departmental plans, layout plans and planning guides; the selection of sites for Government and community purposes; the examination of public and private development projects; the preparation and revision of land use, construction and sample surveys for planning purposes; demographic studies; preparation of planning reports; revision of Colony Outline Plan Committee Reports; revision of density zoning and areas of special control; maintenance of planning records; any other planning duties as may be required.

Qualifications: Corporate Membership of a recognised Town Planning Institute plus one year's appropriate post-qualification experience. Preference will be given to candidates who are also MNZIE or MICE; ANZIA or ARIBA; or ARICS, or equivalent.

Salary scale: equal to about \$NZ6,000 – \$NZ9,900 by 8 equal annual increments. A female candidate would commence at about \$NZ5,500. (Comparative gross salary scales in New Zealand would be about \$8,000-\$13,000 and \$7,500-\$13,000). One increment granted for each completed year of relevant experience in excess of entry requirements.

Gratuity of 25% of total earnings also payable on satisfactory completion of agreement.

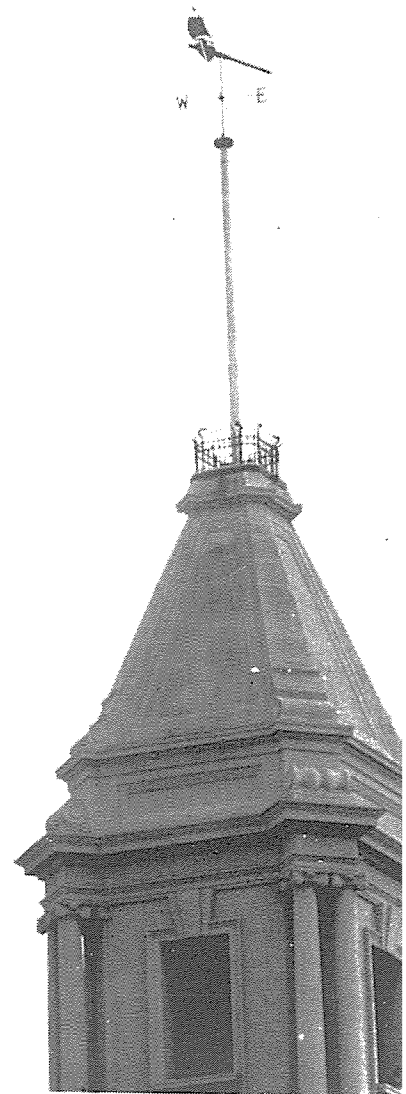
Appointment on agreement for 2½ years in the first instance.

Free passage, subsidized accommodation, low income tax, paid leave.

Further information obtainable from the Hong Kong Appointments Officers, British High Commission, P.O. Box 1047, Wellington.

WIND ENVIRONMENT OF BUILDINGS

D. H. Freeston



Introduction

Problems caused by wind, for the architect and town planner have been discussed in theory as well as practice since town sites were first selected. The development of building expertise has always ensured that practical methods have been developed to deal with rain and snow, pollution, stability, comfort and other situations. However, it is only in the past 10 to 15 years that a systematic study of microclimate airflows and the aerodynamics of buildings has enabled a scientific approach to be made to the structure of our buildings and cities.

Social and economic factors pre-condition design, and in planning a new building, town and city, aerodynamic factors, amongst others, should be considered and given the proper weighting in the cost-benefit study of the project.

Lord Holford in a paper to the Royal Society of London (1) gave examples of the establishment of new capitals in which wind effects were appreciated but in one case, Brasilia, which was built in three years, they were largely ignored, mainly due to a lack of time given to a detailed layout. The result was wind tunnels, dust traps, etc., in the residential quarters. Lord Holford went on to discuss the 50 year growth of Canberra, in which there has been time to assess the aerodynamic effects of shelter belts of trees and the creation of a lake which improved the microclimate. Plant nurseries, shopping centres, tower block designs and layouts have been tested for wind loads, cooling, noise, material erosion and other effects of air flow, before being finally located and built.



Air New Zealand House, Auckland, and the Ferry Building.
The wind indicated by the weather vane is opposite to the true direction.

D. H. Freeston, BSc, CEng, AFRAeS, FIMechE, has been a Senior Lecturer in Mechanical Engineering at Auckland University since 1969. He joined the University staff after experience in the aircraft industry and teaching in England. In later years his research interests have been in the fields of industrial aerodynamics. Mr Freeston is currently carrying out extensive surveys of New Zealand buildings, as well as testing proposed major new projects. That work will be the subject of a second article at a later date.

The development and re-development of city centres, produce a group of aerodynamic problems of their own. Ventilation, be it draughty conditions produced by tall or groups of buildings in cool climates, or lack of ventilation in more tropical climates, where pockets of stale air have been created without adequate turbulence to clear them, are common design failings.

Tall buildings obstruct the wind and act as "scoops" bringing the high speed wind down to pedestrian level. Eventually it is diverted around the corners of the building resulting in high velocity regions. Recently, an 80 year woman walked around the corner of a 16-storey block of council flats in Gosport (U.K.) and was blown over, fractured her skull and died. Projects for underpasses, pedestrian ways under buildings, plazas created by putting tall buildings on stilts, all require careful study if dangerous local winds are to be avoided. The control of microclimate is important in the siting of plants and shrubs. Water fountains and displays become useless if sited to continually drench the passer-by. A water jet in Cape Town, when subjected to a south-westerly wind, sprayed pedestrians and traffic well beyond the confines of its basin. The solution in that case was to fit a cup anemometer on top of the nearest lamp post and use it to activate a valve to control the height of the jet as a function of the wind speed.

Certain areas in cities are renowned as litter traps. These are usually associated with the low pressure cores of vertical vortices, the litter finding its way to the core, and accumulating there. There is a story of a building in London where garbage reaches the 13th floor level in critical wind conditions! These problems, and more, are all associated with environment. Structural engineers and architects have generally had an appreciation of wind loads in the design of buildings but it is only in recent years with the advent of building on exposed sites and the use of new, lighter, more flexible materials, that wind loading has become a greater component of overall loading. The latest codes of practice include much additional information obtained by wind tunnel testing. It is the aim of the architect and planner to ensure the comfort of human beings in and around the buildings. They are concerned with wind loads from the safety point of view both with respect to the main structure and the cladding; they are interested in ventilation of the building, car

parks and plazas; in the efficient performance of chimneys; and the disposal of effluent. In all these areas they must be aware of the influence of the building on its surroundings.

The Wind

What information about the wind and its effects are needed to allow the design work to progress satisfactorily? Before discussing the effects of wind velocity on people and objects it is necessary to define wind velocity.

Large scale weather patterns control the wind high above the surface of the earth but at lower levels the frictional drag of the surface creates a boundary layer. In other words, there is a velocity gradient in which the wind speed varies from zero at ground level to a maximum at some distance, termed "the gradient height," above the earth's surfaces. The depth of this boundary layer, and the mean wind speed variation with height, are functions of the surface roughness. A good fit to experimental data is obtained with a simple power law of the form $\bar{U}_z = \bar{U}_g(z/z_g)^a$ where \bar{U}_z is the mean wind speed at height z . Values of z_g the gradient height and index a as suggested by Davenport (2) are illustrated in Fig. 1 for different terrains. A mean velocity means a velocity averaged over a certain time and the time interval over which the average is made is important. It is usual to need a short time and a long time average. A 3-second and hourly mean velocities are used in New Zealand. However, the mean wind speed and its orientation is not enough. We require also to define the turbulence superimposed on the mean, that is the fluctuations about the mean. This in turn requires measurement of magnitude and frequency in each of three directions. The magnitudes can be represented either as a root

mean square velocity or as a standard deviation from the mean, and power spectral analysis is used to express the distribution of energy in the wind. The above discussion is concerned with the natural wind, but it should be remembered that turbulence at certain frequencies is often produced by the building itself, even though there is little energy in the approaching airstream. The intensity of turbulence is defined as the ratio of the root mean square to the mean speed. Intensities in the direction of the wind approach 40 per cent at ground level over rough terrain reducing to a few per cent at the gradient height. The meteorologist is able to supply, for selected sites, some of the information required, but, as can be seen by the examples quoted, is unable to satisfy all the design requirements of the architect.

Model Testing

Over the years the aerodynamicist has developed skills and techniques to enable him to use models to determine full scale performance of aircraft.

Because of the investment involved, model testing of buildings, like aircraft, has become necessary to investigate performance and environmental changes of buildings and their surroundings. Full scale experiments are slow, expensive and can only be made so late that they are of little use to the building on which they were made. Full scale measurements are necessary however to establish model techniques and to enable correct interpretation of model results. Much useful work is being done overseas in this direction. The Building Research Station (U.K.) has instrumented a number of tower blocks in an urban setting, Royex House and the G.P.O. Tower in London being examples. They are also taking pressure

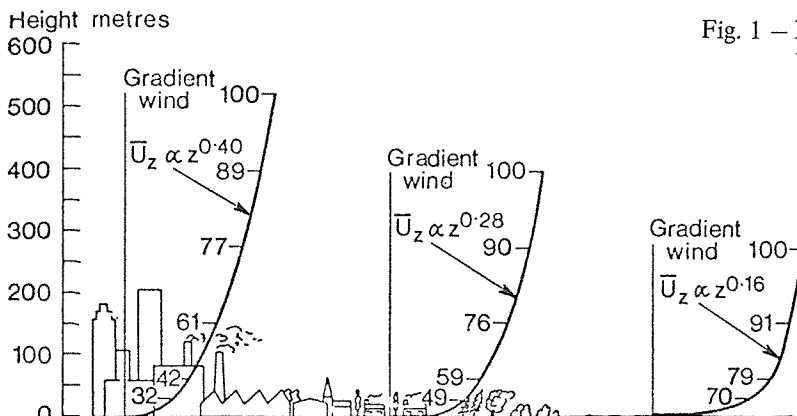


Fig. 1 — Profiles of mean wind velocity over level terrains of differing roughness.

measurements on the walls and roofs of seven terraced two-storey houses on an estate, together with wind information at selected points around the estate, in order to make comparisons with tunnel data. Other full scale measurements have been reported in symposia on wind effects (3, 4).

Most wind tunnels used by aerodynamicists have short working sections in which, by design, the wind speed is uniform and the turbulence level is low. Natural wind, as we have seen, has high turbulence and non-uniform velocity. Special techniques have therefore had to be developed to model the wind.

At Auckland, we have a 10 metre long working section and are currently using a combination of a rod screen and a mat of rectangular blocks of graded heights to generate an urban type profile. This gives a boundary layer about 1 metre thick at the downstream end enabling a typical model scale of 1:200 to be used. In addition, the tunnel has a flexible roof to allow a constant pressure around the model to be maintained as it is in the atmosphere. Special boundary layer tunnels have been built overseas for these investigations. The University of Western Ontario, for example, has an open return tunnel with a 2.5 metre square section 30 metres long. In that case, a natural boundary layer is grown over a rough floor producing properties similar to an urban situation without having to resort to artificial devices. Because, in general terms, buildings are built with sharp corners, scale effects are of minor importance. That is measurements made at model scale can be related to the actual building by simple scaling parameters. However, when round buildings, chimney stacks or even buildings with rounded corners are tested, extra care in the interpretation of results is necessary because although the model is smaller than the real thing the air particles are unchanged.

Airflow About Buildings

The main features of the airflow around a tall building are illustrated in Fig. 2. Towards the top of the building the wind divides into two streams. One stream flows upwards and separates from the windward edge. The lower flow forms a vortex in front of the tall building and sweeps around the windward corners. Groups of buildings surrounding the high rise building can augment the local velocities. For the simple case of Figure 2, i.e. a smaller building to windward of the tall one, wind speeds in regions A, B can be twice that

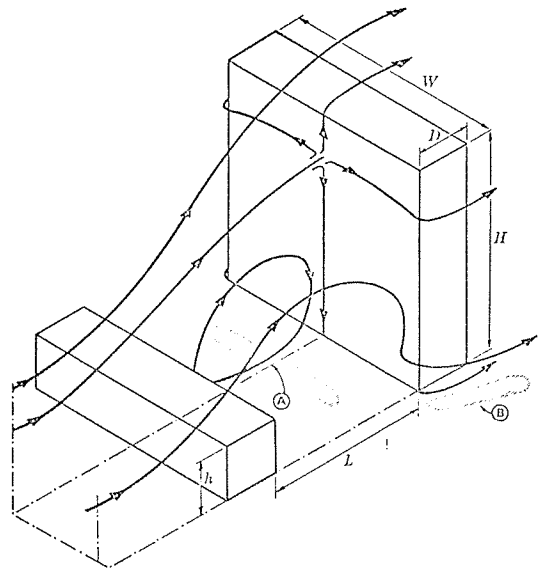


Fig. 2 — Typical flow pattern on the windward face of a slab.

of the free wind at the same height and three or four times that commonly experienced in towns (5). The actual magnitude of the wind speed in these areas is a function of a number of variables such as L/H , W/H , H/h . Tower blocks which approach a circular section promote a lateral flow and do not produce the strong vertical flows. The use of lower stage buildings against the face of tower blocks and the use of horizontal features and canopies near ground level (Fig. 3) are ways of keeping the high velocity and turbulent winds clear of pedestrian areas.

How tall is tall and how much wind is too much? Generally, complaints about wind from tall buildings arise only for structures that are both more than 25 metres (say six storeys) and more than twice the height of surrounding buildings. However, the establishment of a comfort criterion is not so easy. Melbourne and Joubert (6), from observations around a large slab type building 140 m wide by 13 m deep and 50 m high on the Monash University campus, established that a gust of 23 m/s rising from 12 m/s in 2 to 3 seconds, will cause people to be blown over. It is recognised that much higher steady velocities can be tolerated without losing balance for it is the unexpected nature of the gust that catches people off guard and gives rise to the unbalance.

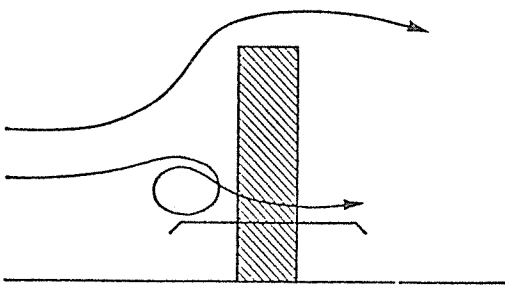
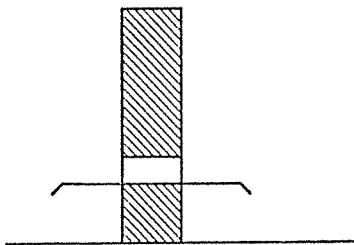
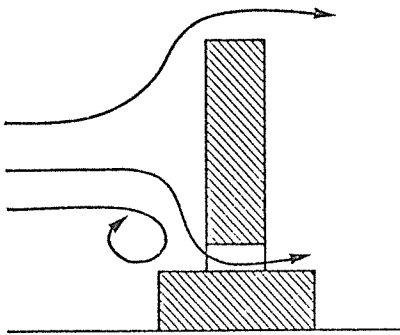
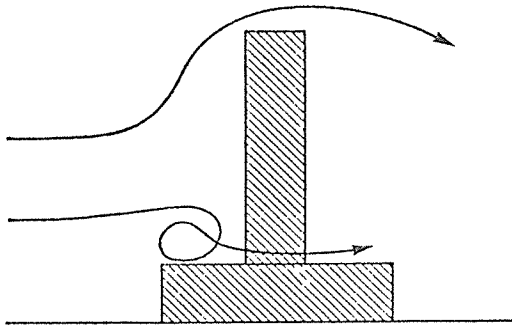


Fig. 3 – Tall buildings designed to keep high winds away from pedestrian areas.

They further suggest that, if in public access ways the induced gust velocity, i.e. 3 sec. mean, exceeds 23 m/s once a year or 15 m/s for 1% of the total time, then such an area should be considered unacceptable. The first criterion is concerned with the danger of a personal accident and the second concerned with comfort. The Building Research Station use a mean speed, not a gust speed, as the criterion and relate it to the Beaufort scale (see below).

Effects of wind on people

Beaufort Number	Wind speed m/s	Effect
0.1	0-1.5	No noticeable wind.
2	1.6-3.3	Wind felt on face.
3	3.4-5.4	Hair is disturbed, clothing flaps
4	5.5-7.9	Raises dust, dry soil and loose paper. Hair disarranged.
5	8.0-10.7	Force of wind felt on body – Limit of agreeable wind on land.
6	10.8-13.8	Umbrellas used with difficulty. Difficult to walk steady.
7	13.9-17.1	Inconvenience felt when walking.
8	17.2-20.7	Generally impedes progress.
9	20.8-24.4	People blown over by gusts.

The frequency of occurrence of wind speeds greater than 5 m/s for more than 5% of the time is considered unacceptable. This is a comfort criterion, but, of course, is temperature dependent. It is related to 10°C which is relevant to the climate in the U.K. Higher speeds could perhaps be tolerated in more favourable climates.

These criteria depend on the use to which the area is to be put. Wind speeds at an outdoor restaurant will need to be lower than those in purely pedestrian zones. In fact, a number of criteria are required relating wind speed (both gust and mean) with temperature, humidity, seasons and other subjective factors. Hunt and Poulton (7) are undertaking such a study. They are proposing to subject people to various wind conditions in a closed circuit wind tunnel under controlled turbulence. They will be making measurements of the shear force between feet and a platform, bodily movement and posture, as well as obtaining answers on a subjective basis. It is obvious much more work needs to



be done in this area in order to obtain comfort criteria in line with that existing for human beings inside rooms.

Conclusions

New materials and construction techniques have caused a whole new range of wind problems. Testing techniques are now catching up and bringing an understanding of the problems that will be valuable provided architects and planners are willing to use them. At the moment we need to aim at being able to define tolerable levels of wind environment. In time we might even be able to predict the approximate levels of such velocities off the drawing board. But until that time it would seem reasonable to expect planning authorities for a development, to design for tolerable wind conditions and to guarantee that the environment on adjacent sites will be unaffected.

Gusty wind conditions on the Wakefield Street corner of the State Insurance Building, Auckland.



Rubbish being lifted to third floor level by updraft.

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NEW GERMAN LEGISLATION ON URBAN RENEWAL

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In 1971 the federal German parliament passed a new bill, which was to form a framework for federal subsidies for urban renewal as well as for planned urban expansion and development, including farming and forestry in areas affected by new urban development.

This Act may be interesting to planners in New Zealand, because of the difficulties which have been encountered in the operation of our own Urban Renewal and Housing Improvement Act 1945, and the lack of public acceptance of the designation procedures in that Act coupled with consistent under-spending of monies set aside for urban renewal in the budget.

The German legislation, based on the notions of private property and public interest, is particularly strong in its consistent and formal organisation of co-operation between the planning authority – in most cases the local authority or its nominated agent – and the local users: owners, tenants, local businessmen and utility operators. Being based on public participation and the amicable settlement of controversial issues, the questions of compensation, of compulsory purchase and of demolition are treated very fully and ingeniously; logically, there is provision both for compensation to those who suffer in the public interest, and for a contribution from those who gain by the improvement work. In the following notes some of the more innovative clauses of the Act are summarised, in a comparison with the New Zealand Urban Renewal Act.

The German Act, by linking government aid

Ponsonby renewal area: can german legislation help?



to urban re-development as well as to peripheral new development or to New Towns, — and by including the impact of urbanisation on the rural scene, — seems to be on better ground than the New Zealand Act which confines itself to the emotionally heated ground of slum clearance policies. Re-development and new growth are alternative and permanent features of urban life, even if government finance is more necessary to re-development than to new growth where private enterprise is the prevalent source of investment. In the case of re-development in Germany, properties may eventually be returned to the former owners, or are exchanged for other properties in the designated area. Compensation for land is largely by other land or rights in land. This contrasts with the New Zealand method of compensation in cash, which, in many cases, meant that people could not buy a house for the house that was taken from them.

An Urban Renewal Area designation may only be proclaimed, where it is clear that redevelopment will follow swiftly and where finance is seen to be available and plans are approved for re-building.

The preparation of planning documents is also of interest: before preparing a physical redevelopment scheme, a planning authority has to establish a “Social Plan”, which deals with investigations of side effects and disadvantages of the scheme as well as with its benefits. The Act prescribes discussion between the planning authority and the people affected by the scheme, and asks for a report on any adverse effects, and proposals for their mitigation. The “Social Plan” is an open-ended document, which has to be kept up-to-date all through the operation of the scheme.

Consideration is to be given to the occupational and employment prospects, family and age structure, to housing needs, social groupings and social linkages within the designated area. In negotiation with affected persons, time limits are to be so arranged that people can give due consideration to their decisions. Only after the social plan is agreed to is a physical planning scheme drawn up. In the physical plan regard is to be had to the preservation of “historically or aesthetically valuable elements”. Buildings and other installations that are to be demolished are to be marked on the plan, which is then incorporated in the district scheme by means of a scheme change — much as in this country.

If there is need for additional land in order to accommodate displaced land uses, or to provide needed additional communal facilities, the planning authority may designate other areas outside the original redevelopment area, which then have the same statutory status. When it comes to the operation of the scheme, the planning authority may delegate its task to an agent, which may be an association of owners, tenants and other users, in conjunction with third parties, or alone. Detailed safeguards and forms of association are incorporated in the Act. Private Development Applications in the designated area cannot be refused, as long as the applicant renounces all rights for additional compensation for the additional improvements he wants to carry out, and as long as the work is in line with the plan.

Compulsory Acquisition

Compulsory purchase is only permitted under the Act where it is essential to the renewal scheme; it can be avoided if the owner promises to carry out and complete renewal work within the designated period. This period may be extended by application.

Demolition Notices

Demolitions are limited to buildings or installations which are an obstacle to the scheme and cannot be acceptably altered or economically modernised, or repaired. Residential premises may only be demolished, if, at the time, alternative accommodation at reasonable cost is available to the occupiers. In the case of commercial or industrial premises, where an occupier wants to move to alternative accommodation, demolition must be so timed that the occupier is not without reasonable accommodation at any time.

Construction Notices

Consistent with the authority's power to issue demolition notices, there are powers to issue “construction notices”. Where several sites are involved, the authority can order owners to join in a combined construction scheme. Where owners refuse, compulsory purchase may be used. Modernisation and repairs are negotiated between owners and the planning authority. In the case of inability to agree, the authority may enter and carry out the work — much as under the New Zealand Health Act.

Compensation

Compensation for land taken is at market value, ascertained by an expert committee set up under the Public Works Act. A local authority may not retain land acquired under an urban renewal scheme, but there are a lot

of exceptions. In selling the land, priority is to be given in the first instance to former owners. After that, land may be sold to people who can prove that they will build in accordance with the re-development scheme, and within a reasonably short time.

If the buyer so demands, that part of the price of the land which exceeds the acquisition cost, i.e. the price rise which is due to urban renewal, has to be registered as a mortgage.

Detrimental effects of the termination of leases are compensated for by the planning authority. On application from a tenant, the authority may extend a tenancy contract, where this is provided in the "Social Plan".

Rent increases in modernised buildings are limited to ten per cent of modernisation cost, with an upper limit. Increased rent demands must be based on a document showing how it is arrived at. Where a tenant does not accept an increased rent, he has two months at the old rental before leaving.

Consequential losses are compensatable.

Betterment

While compensation under the German Act is extremely generous, its necessary counterpart is a betterment contribution imposed on those owners who benefit from the scheme. This measure should prevent land speculation with its grossly inflationary side effects. The betterment contribution corresponds to the rise in value of the land which is due to the operation of the scheme. It is to be paid after the scheme is completed. Any effort contributed by the owner is to be taken into account in assessing the contribution, which is assessed on the land, not on buildings. The amount is to be converted into a loan, if required, and secured by a second mortgage on the property. In the case of an industrial enterprise which has caused an area to decay, the betterment is calculated as either the increase in value, or the savings in internal costs which would have been required to abate the detrimental effect of the enterprise on the environment, whichever is the lesser.

Government Funds

The use of government funds is circumscribed, but much wider than in New Zealand policy. For example, where an authority has required an owner to do certain modernising work, the owner is liable only to the extent that he can recover the cost of the work by increased returns. Further costs are reimbursed from renewal funds.

Where an owner has agreed to carry out maintenance work on a historic building or on

other preservation work, grants are available from renewal funds.

Renewal funds are also available: where businesses or farms have to be relocated, and where normal compensation is not sufficient; where people are moved from really bad housing and cannot be rehoused for the amount of their compensation, (unless other funds are available); where no effective assets are acquired by compensation; where hardship has to be mitigated.

Funds may be used either as loans, or to cover deficits; as short term bridging finance; or to reduce the cost of loans.

Funds are available for initial survey and planning work; for the acquisition of land and the cost of modernisation; for consequential improvement of communal facilities without which the scheme would not succeed; and in the last resort, even for actual housing construction for rental housing for low income tenants.

However, on the whole, new construction and modernisation are left to the private sector, and the work of the local planning authority is confined to aiding people to obtain finance, applying for a mortgage or supporting an applicant. This would amount to a recommendation for priority in the queue of applicants for loan money.

Uplifting of the Designation

The designation of a re-development area is to be uplifted as soon as the scheme is completed, or as soon as it becomes clear that renewal is not feasible owing to the lack of funds or for other reasons. In such cases the properties taken are to be restored to the original owners — with certain named exceptions. The uplifting can apply to the whole or to parts of the designated area, or even to individual sites.

Comment

In New Zealand there is an intention on the part of the Government, to reconsider the very diffuse legislation on planning and urban renewal, particularly with regard to the use of central funds. At present the Health Act, the Urban Renewal Act, the Town and Country Planning Act, the Counties and the Municipal Corporations Acts, all apply to the urban situation; the statutory standards under those Acts are in need of reconsideration. The German Act seems to touch on most of the sore points that have appeared in New Zealand practice, and may serve as a check list, and occasionally as a guide for the necessary revisions of our own legislation.

CONTROLLING BUILDING HEIGHT: DAYLIGHT AND SHADOW INDICATORS FOR PALMERSTON NORTH

K. Nairn

Recently, a proposed change to the residential zones of the Palmerston North District Scheme resulted in an objection that the Code of Ordinances did not provide enough flexibility with regard to building heights in these zones and that it was virtually impossible to erect buildings of an appreciable height on a normal section when the height of a building could only be increased 1 ft. for every additional foot of side yard provided, e.g. an 80 ft. wide site with a depth of 132 ft, and fronting a 99 ft. street could be used for a building 40 ft. high provided that the building did not exceed 20 ft. in width.

It was argued that, in many cases, tall slender buildings would be preferable to low buildings with greater coverage and that such a regulation would inhibit the erection of high rise buildings in the future.

While it was conceded that the present requirements were fairly restrictive, it was held that they should only be relaxed where satisfactory daylight and sunlight standards were maintained. The (U.K.'s) Ministry of Housing and Local Government in 1964 published Planning Bulletin No. 5 entitled "Planning for Daylight and Sunlight" (1) in which the application of daylight and sunlight standards for the suitable spacing of buildings in relation to height and bulk are described. The application of those standards to our situation appeared to give an acceptable result, but the use of such tools in a comprehensive re-development situation is somewhat different from the sporadic re-development on individually owned 66 ft. wide sites. Also the application of the sunlight indicator calls for detailed knowledge of room layout, sill heights, etc. of buildings on sites adjoining the one to be re-developed.

At the time of writing this article, Mr Nairn was the senior planner for Palmerston North City. He has since been appointed to a similar position with the Dunedin City Council.

However, the Bulletin (para. 69, p. 18) states that 'The orientation and spacing of buildings in accordance with the standard sunlight indicator ensures that there is not unreasonable overshadowing of the main windows of one building by another'. It was therefore decided that the converse would also be true and that if a building did not overshadow an adjoining one then it was not interfering with its sunlight standards in terms of those set out in the Bulletin.

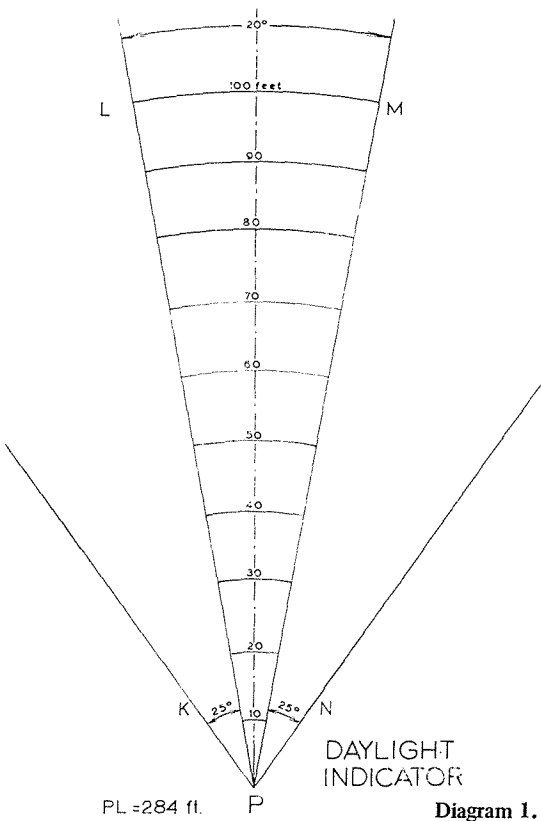
Two indicators were then produced from the information in Bulletin No. 5:—

A daylight indicator for building to boundary testing. The B4 indicator on p. 7 of the Bulletin was selected in view of the Auckland City Council's experience (2) that this had proved the most useful in designing residential buildings (Diagram 1).

A shadow indicator based on a sunlight indicator turned through 180°, the construction of which is detailed in Bulletin No. 5. (Diagram 2).

The application of these tools to the local situation was somewhat arbitrarily fixed and is more empirical than theoretical. It was based on the following assumptions:—

- (a) That any residential building, not in any shadow from a building on an adjoining site for at least 2 hours a day between 10 a.m. and 3 p.m. would have a satisfactory standard of sunlight.
- (b) That the location of buildings while not overshadowing adjoining buildings, but shading a proportion of the adjoining site, is acceptable and that such shadow should not cover more than 45% of the adjoining site at any one time between 10 a.m. and 3 p.m. was adopted as the standard.
- (c) The height of the building should only be limited by its effect on adjoining or nearby properties and that it would be reasonable to restrict its shadow to the adjoining property only and to the side yard of a property one further removed. Based on a standard site width of 60' and a



14' side yard, a restriction on a building shadow exceeding 80 ft. from its site boundary was imposed.

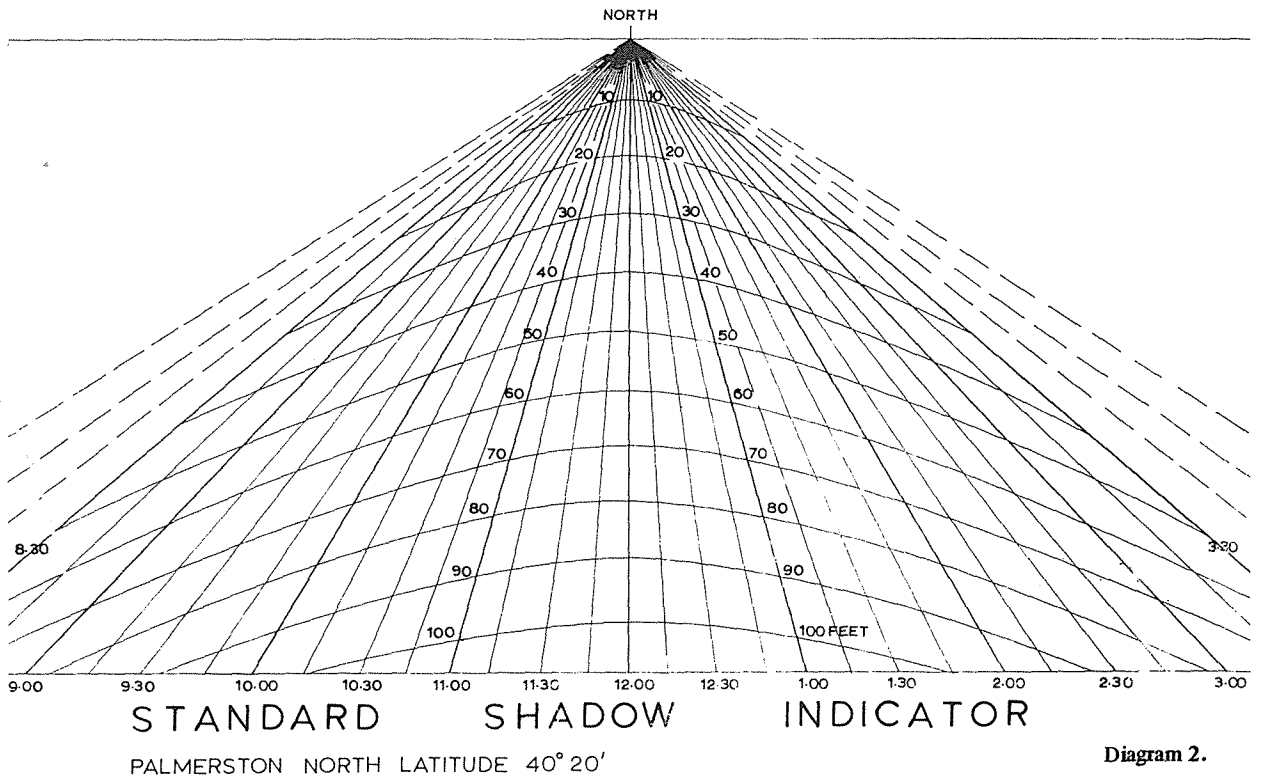
(d) That due to Palmerston North's topography (predominantly flat) no special cognisance need be taken at this time of differences in site levels.

These assumptions and the indicators provided the technical basis for the controls proposed. It was, however, necessary to write these in a form that could be implemented and included in the Code of Ordinances.

To achieve the legal standing necessary for such a regulation, the following proviso has been included in the bulk and location requirements of the code of ordinances to permit buildings to deviate from the standard requirements provided that the daylighting and sunlighting standard specified are complied with:—

“(c) Height limits, side yard requirements in excess of the 8 ft. minimum determined by the height of the building and site coverage regulations in this Code shall be deemed to be complied with if the building meets all other requirements and is designed —

(1) To meet the requirements of the building to boundary indicator in Appendix IX.



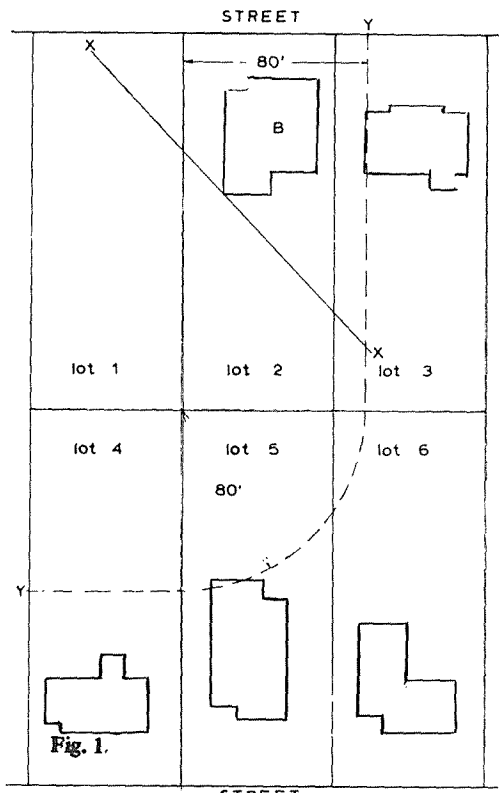


Fig. 1.

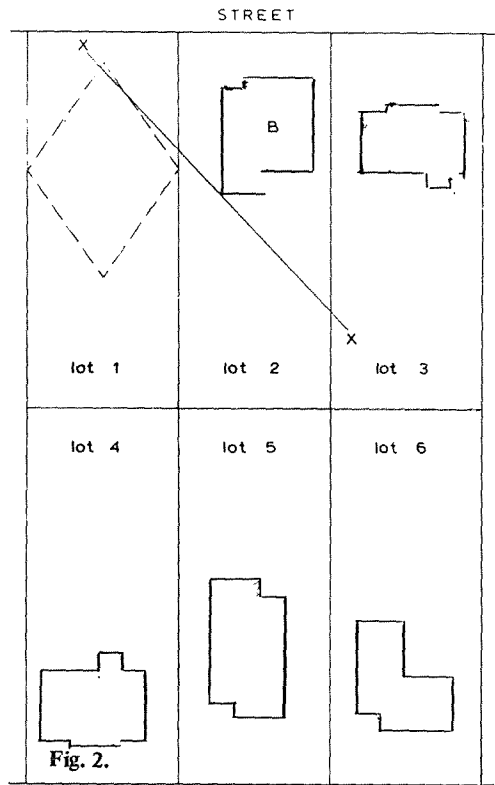


Fig. 2.

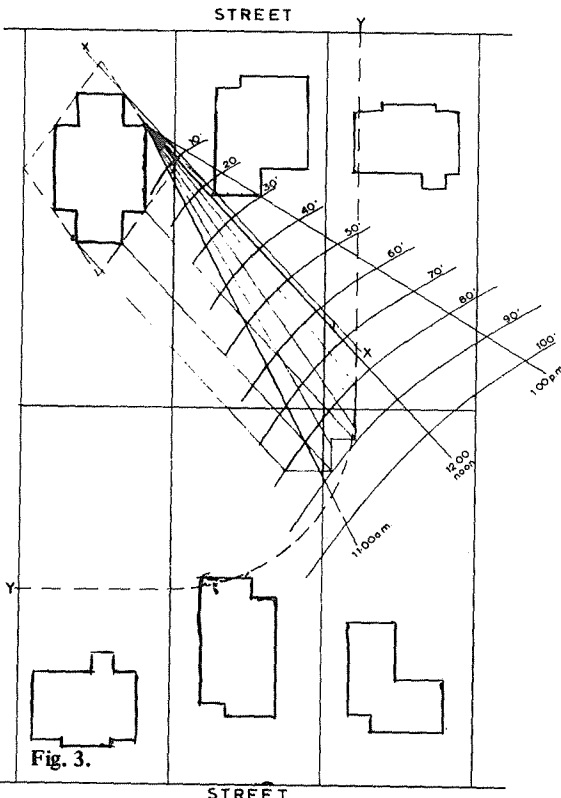


Fig. 3.

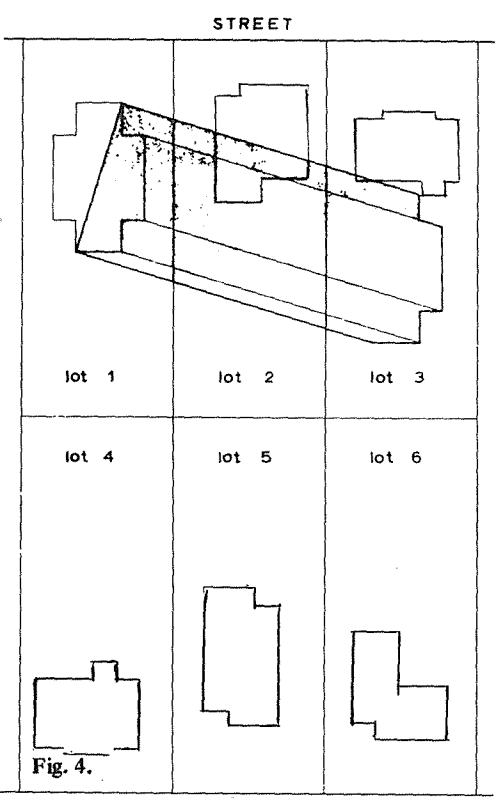


Fig. 4.

Fig. 1. Limits to building development on Lot 1.
 Fig. 2. Site coverage by daylight indicator.

Fig. 3. Fixing height by Shadow Indicator.
 Fig. 4. Test building from Fig. 3 for maximum shadow on Lot 2.

(2) Is such that any residential building on any adjoining property is not in any shadow from it for at least 2 hours continuously between 10 a.m. and 3 p.m. on the shadow indicator.

(3) That it does not cast a shadow over more than 45% of any building site in the vicinity between 10 a.m. and 3 p.m. on the shadow indicator, nor have any shadow beyond 80 ft. of its site boundary at noon on that indicator.

Provided that – in any case where the building on the adjoining site, not subject to shadow has been erected in accordance with this sub-clause then (2) above shall not apply if it would force the proposed building to be built in such shadow.”

The application of this ordinance will, of course, produce staggered sitings for buildings and at some stage in the process there will be anomalies while properties await re-development. In order to prevent the process being halted, the proviso to (3) above allows, in certain circumstances, an existing residential building to be overshadowed by a new one built in accordance with these new provisions. The application of the code and the use of the indicators is similar to that described in the English planning bulletin. They can, of course, be used either to check a proposed building or they can be used to determine what can be built in a particular situation. The following is a description of the latter process:— Fig. 1 shows a vacant site and the existing development to the south-east and south-west. No other properties in the vicinity have been re-developed in accordance with the new section of the code so that the proviso to (c) (3) is not applicable.

Step 1

(a) By inspection of the aspect of the site it can be seen that a building on Lot 1 whose noon shadow is clear of building ‘B’ will give that building 2 hours without shadow between 10 a.m. and 3 p.m. as required by (c) (2).

(b) By drawing vector XX which is the eastern edge of possible building on Lot 1 which complies with the code, we have a limiting factor or siting in a N-E direction.

(c) By drawing a line Y – Y to and 80 ft. from the southern and western boundaries of Lot 1 (i.e. the distance that any building’s shadow at noon can go beyond its site boundary), it can be seen that the building whose shadow conforms to the Y – Y

limit will not overshadow any other residential building.

Step 2

With the daylight indicator and the limiting eastern shadow boundary XX (Fig. 2) plot area that can be covered by a building (see dotted line). N.B. The example has assumed that the minimum practical width for a building is 20 ft. and that 14 ft. side yards would be needed for access around the building. (The side yards could be reduced to 8 ft.) A tentative building can then be sketched in (solid line Fig. 2).

Step 3

(a) Taking building shape and location in Fig. 2 draw noon shadow rays until they intersect the 80 ft. shadow line Y – Y from Fig. 1 as shown in Fig. 3.

(b) The shadow indicator can now be laid with its noon vector along the noon shadow rays and the north point on the point of commencement of the rays. The points of intersection of the rays with Y – Y will give a direct reading for the heights of those points. For practical purposes the building height has been taken to be that of the shortest ray which will satisfy all points. If practicable, however, the building could have various portions at different heights.

Step 4

Draw maximum width of shadow across adjoining property by projecting the two rays from the extremities of building which offer the greatest length of building at right angles to the plane of the sun’s rays. Fig. 4 shows that for the example considered, this occurs at 2.00 p.m. and that the area of the adjoining site covered by the shadow does not exceed 45%.

The result of the application of the code requirements and the indicators shows that the site in question could be developed with a building of the shape shown and to a height of 75 ft.

References

- (1) Ministry of Housing and Local Government (1964). *Planning for Daylight and Sunlight*. Planning Bulletin No. 5. London, H.M.S.O.
- (2) Auckland City Council (1970). *City of Auckland District Scheme Code of Ordinances*, para. 9.1. page 357.

PRACTICE NOTE

VISUAL AMENITY – PRESENTING A CASE.

R. L. Streatfield

Planners are still unable to come to grips with the preservation and control of visual amenity despite the new innovations and techniques now available. I thought this may be peculiar to Australasia but, to my dismay, I have seen failures in this respect in Europe. Perhaps I am being unfair in blaming the planners when in fact the fault may lie with the decision-makers within the political machine. However, the method of analysis and the determination of the likely impact which any new development is likely to have on visual amenity and the way it is presented to the decision-maker may be the cause of many bad development decisions which still pervade city societies today. Office tower-blocks, the 'conventional wisdom' (1) of inner city development seem to make the greatest impact on city environments and therefore offer the greatest challenge in trying to preserve and control visual amenity. Clearly, many final decisions are based on economic factors – high land costs with maximisation of returns by maximisation of development. Aesthetic values are blandly pushed aside. My first, and long-awaited view, of the Houses of Parliament in London from across Westminster Bridge on the opposite side of the Thames was a disappointment when I noticed an office-tower intruding as a back-drop into the skyline. I found out that it was government occupied! Melbourne's Regional Planning Authority, the Board of Works, has made an attempt to control and preserve visual amenity around the Shrine of Remembrance War Memorial in St. Kilda Road. Undeniably the Champs Élysées of the Southern Hemisphere, St. Kilda Road

Mr Streatfield, DipTP(Auck), MIS Aust, is at present studying for a MSc in Rural Studies at Reading University, England.

is the main southern approach to the Melbourne CBD. Its proximity to the central city area, its wide treelined pavement and its general charm, will continue to dominate the Melbourne cityscape.

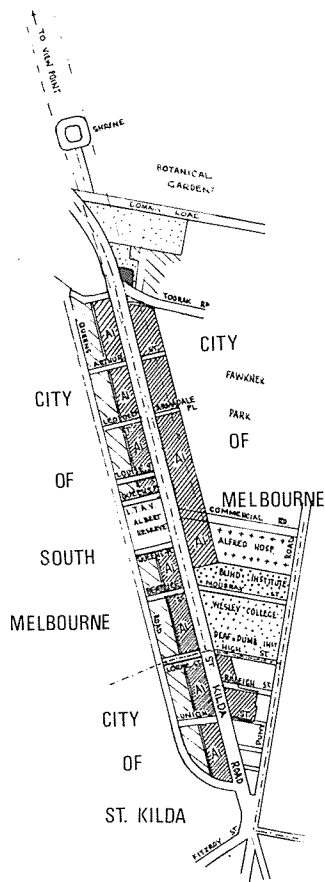
The past decade has seen increasing change taking place in land use and values and the predominant residential character and zoning (Fig. 1) has been under extreme pressure from the commercial sector. Fortunately, the character of the road has been preserved by the Board and the various local authorities who impose minimum 45ft. and 15ft. front and side set-back requirements for garden and landscape purposes on commercial developments. Underground or screened surface on-site car-parking requirements are enforced. A plot ratio of 3:1 is allowed in residential zones, but with additional bonuses for set-back over and above the minimum commercial development can claim 4.75:1 as compared to around 12:1 in the CBD. (2)

The Shrine, a mixture of pseudo-classical Greek and Roman architectural styles and termed by one as a "monstrosity of stone" (3) and another as a "magnificent structure in the most advantageous situation" (4) stands about one mile south, and on the axis of, the CBD's Swanston Street.

The Shrine Vista, as seen from Swanston Street (Fig. 2) is being preserved and trees that obstruct the view are either lopped or removed. This has caused considerable public controversy. Change in direction of the alignment of St. Kilda Road behind the Shrine brings properties, particularly on the eastern side with high rise development potential, within the Vista and the Board is effecting planning control of visual amenity by survey methods.

For computation purposes, a view point for the Shrine was selected at the intersection of the northern alignment of Collins Street with the centre line of Swanston Street (Town Hall corner, Fig. 3.) For calculation of height limitations, an eye-height of Reduced Level 41.00 was adopted at the view point. With known heights on the fundamental points on the Shrine, (Fig. 2.) distance to the vista plane of the Shrine and distance to development sites along St. Kilda Road, proposed buildings can be kept below, behind or outside the Shrine outline.

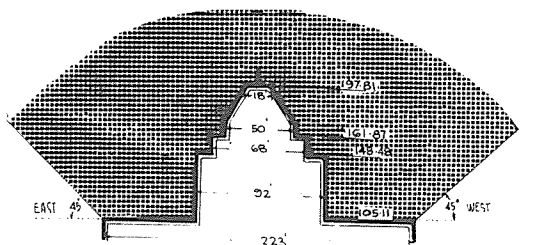
Horizontal control is facilitated by the use of Lands Department Zone O (T.M. co-ordinates). The Survey Branch of the Board of Works has co-ordinated the view-point, the Shrine itself



- Special Use
- Residential A1
- Residential A
- Local Business

ZDNING

Fig. 1



OUTLINE TO BE PRESERVED FROM VIEW POINT.

Fig. 2

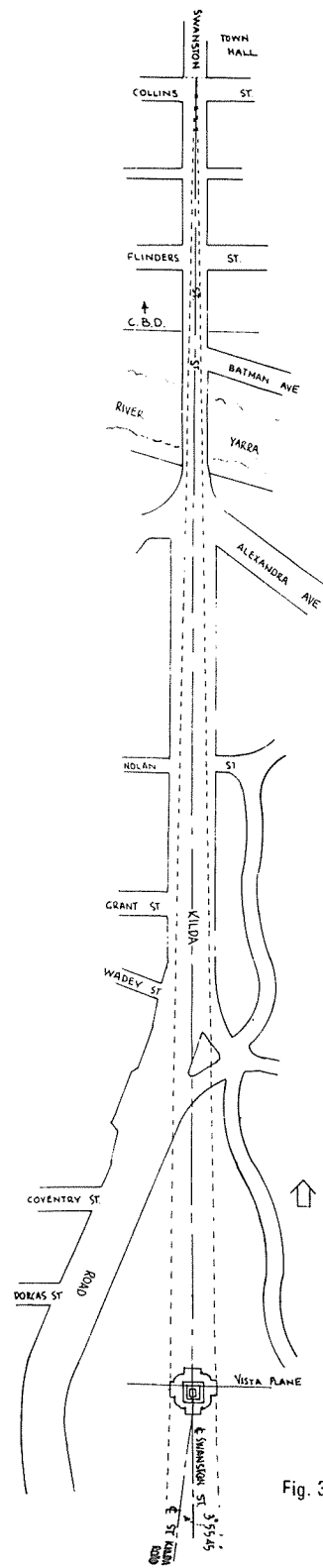


Fig. 3

and permanent marks placed along the length of St. Kilda Road by using the latest electronic distance measuring techniques.

It is the responsibility of developers in submitting their plans to ensure that they have tied their site, and consequently points on the plan of the proposed building, into the horizontal co-ordinate and vertical control-system. (5) The final analysis rests in computing and comparing bearings from the view point through the points on the Shrine and from the view point to the points on the proposed building. Any likely intrusion into the Vista can be detected at this stage and the developer accordingly asked to amend his plans. This method does, however, have two obvious failings. The first is that only one viewing point in Swanston Street is used and there is no guarantee that part of a building may appear within the vista when viewed from another part of the street. Fortunately, more by luck than design, this has not happened. I must admit that sometimes the presence of smog helps in clouding the view! Secondly, developers have

tended to follow the outline of the Shrine in their building design and unimaginative development has often resulted.

It is quite obvious that there is scope for streamlining this method of controlling and preserving visual amenity. It does, however, give an effective tool to present a case to decision-makers which can be understood and can take the onus off the planner in making a value judgment in assessing the likely effects of development on city environments. This is a case where improved techniques in an associated profession, and I refer to electronics in land surveying, can make former tasks set by planners for their experts now become reasonably easy.

1. J. K. Galbraith. *The Affluent Society*. Pelican Books 1958.
2. M.M.B.W. Planning Scheme Ordinance permits offices in Residential A1 Zones if imposed conditions are met.
3. Letter to the Melbourne Age, 8th February 1966.
4. Letter to the Melbourne Age, 19th March 1964.
5. Lot sizes vary from 20 to 30 metres frontage with 70 metres to 100 metres depth and many have been amalgamated.

The Planning Institute's Annual Conference at Christchurch May 14th to 16th.

The Theme will be "Public Uses & Open Space in Relation to District & Regional Planning" and, appropriately, the venue for the first day's proceedings is the city's latest public amenity – the new Christchurch Town Hall. Tuesday and Wednesday sessions are, however, to be conducted at the Avon Motor Lodge, which is also booked to provide accommodation for visitors to the city.

Because the theme is one which cuts across a number of current local body issues, conference sessions are to be open on the Monday and Wednesday, with Tuesday set aside for Institute business, along with a bus tour, to which all are invited. A special Tuesday programme, however, including the bus tour, is arranged for non-Institute members and wives.

The papers and panel discussions of the conference are arranged in a sequence which broadly speaking progress from –

- (a) The location and design aspects of public buildings and spaces; to
- (b) The problems of designation in district schemes; public controversy, acquisition of sites; legal procedures; compulsory purchase; and compensation.
- (c) Harmful aspects of public uses; incompat-

ibility with nearby land uses; the need to weigh the distribution and character of public uses against the need for conservation of local and regional amenities; and finally

(d) The consideration of urban areas and their total form as affected by large public facilities and open spaces.

The aim of the conference will be to examine the characteristics of public uses within and beyond urban areas; their scale, distribution, ill effects or benefits and the procedures, both technical and administrative by which they are planned and sited, with particular emphasis on district scheme procedures. In concentrating attention upon this sometimes neglected aspect of national development it is hoped that some of the shortcomings – and perhaps merits – of the planning process as we know it may be identified.

For the purposes of the conference the definition of "public use and open space" is rather wide. It will be appreciated that a community facility such as a public hall is not in the same category as an airport, or a university; however, as a general guide, important facilities which occupy large areas or which are used by many people are included.

Prominent public buildings and open spaces which will be subject to appraisal both during conference sessions and in the field will include – the new town hall, Cathedral Square, the commonwealth games complex, Port Hills, the Estuary, etc.

Brief Outline of Principal Activities

Monday, May 14th – Venue – Christchurch Town Hall Conference Room (open sessions)

10.30 a.m. – Pt. I “Introduction to the Conference Theme”; W. T. Williams, Town Planner, Christchurch City Council – Pt.

II “Design and Planning Aspects of the Christchurch Town Hall;” M. Warren, Town Hall Architect.

11.15 a.m. (approx.) – Conducted tour of Town Hall complex.

2.00 p.m. – Planning for public works to be located on land which is already built upon or developed – Chairman J. G. Leggat, Barrister and Solicitor, Christchurch.

Speakers – W. Barker, planning consultant, Christchurch, W. L. Beaumont, District Planning Officer, Ministry of Works, Hamilton.

3.30 p.m. – **Paper and discussion** – “Legal Aspects, – provision for public works in planning schemes”. Chairman, Miss N. Northcroft, planning consultant, Christchurch.

Speaker, J. Milligan, Barrister, Christchurch.

Tuesday, May 15th – Venue – Avon Motor Lodge

Institute Members – Business sessions during the day and bus tour.

Visitors – Non Institute Members – Programme of visits to public buildings, including the Commonwealth Games complex.

10.15 a.m. – Bus tour, to include part of the Summit Road and the Estuary.

Wednesday, May 16th – Venue – Avon Motor Lodge (Open Sessions)

9.00 a.m. – **Paper and discussion**: Public open spaces of regional or national importance.

Speakers: D. D. Millar, Chief Surveyor, Lands & Survey Dept, Gisborne, and F. S. Robinson, Regional Planning Officer, Christchurch.

10.45 a.m. – **Panel Discussion**: Estuaries, harbours and planning schemes. **Chairman** J. R. Dart, Senior Lecturer, Town Planning Department, University of Auckland.

Panel: Professor G. Knox, Ecologist, Christchurch. N. Segar, Deputy Chief Engineer, Auckland Harbour Board, F. Boffa, landscape architect, Christchurch.

12.30 p.m. – **Luncheon**: During the luncheon, guest speaker, Ron Scott, of the Commonwealth Games Organisation Committee, will present

an informal talk on “Planning for Commonwealth Games Facilities”.

2.15 p.m. – **Paper and discussion**: The Influence of public works and open spaces on urban form.

Chairman, C. B. Millar, Director of Planning, Christchurch Regional Planning Authority, **Speaker**, M. Douglass, Assistant Director, Christchurch Regional Planning Authority.

3.40 p.m. – Workshop session to co-ordinate conclusions drawn during Conference.

For further information contact –

Mr R. Higgins,
Christchurch City Council,
P.O. Box 237,
CHRISTCHURCH.

EMPLOYMENT

WELLINGTON REGIONAL PLANNING AUTHORITY

REGIONAL PLANNER

The Authority is currently engaged in a number of fundamental studies basic to regional development policy formulation. A vacancy exists for a person to participate in this work, which involves systems analysis, information systems and model building.

Qualifications

A recognised professional planning qualification is necessary, together with previous experience in urban or regional planning.

Salary

The position is a senior one carrying responsibilities for important sectors of the Authority's work.

Salary in accordance with qualifications and experience will be negotiated with the successful applicant.

Details regarding the position and conditions of appointment may be obtained from the Secretary, P.O. Box 11-248, Wellington (telephone 554-162).

BOROUGH OF PAPA KURA TOWN PLANNING OFFICER

Appointment is to be made of a full time Town Planning Officer. Salary will range between \$4,500 and \$5,500 per annum.

The person envisaged would either be recently or nearly qualified and time for further study would be given.

For further information contact the Town Clerk.

G. H. Tagg,
TOWN CLERK

BOOK REVIEWS

Town and Country Planning in New Zealand; its framework, practice and implementation techniques,
A. W. J. Hutchings, 1972.

Allan Hutchings visited New Zealand as a 1971 ANZAC Fellow in order to examine planning administration and practice here and to make comparisons with the South Australian experience. He is a senior member of the staff of the South Australian State Planning Office and has a special interest in the planning for and administration of open space at the national (state) and regional levels. The report therefore contains a useful note of various zoning techniques that have been developed to cover recreation, scenic protection and nature conservation, historic places protection, tourist, and motorway amenity, as well as the inevitable rural and community use zones.

The balance is a pot-pourri of subjects ranging from land subdivision controls to urban renewal techniques which, collectively, cast as much light on South Australian as New Zealand practice. The report as a whole amply supports Hutchings' conclusion that we can learn much from each other in our Pacific basin without "taking ritual visits to the Antipodes in the Northern Hemisphere".

— J. R. Dart.

Population Forecasts 1971-1991;
Ministry of Works. Town and Country Planning Division; Wellington, 1972. 84pp. \$2.25.

The latest issue of population forecasts compiled by the Ministry of Works has now been published. Forecasts based on ratio projections are given for New Zealand regional,

urban and local areas and the areal coverage has been extended to include dependent town districts, county boroughs, county towns, townships with populations of 1000 or more, and statistical divisions as defined by the Department of Statistics. Previously, population forecasts at the local level were given only for independent territorial local authorities and urban areas. It is pleasing to note that a paragraph headed "Limitations of Forecast" has been introduced into the slightly expanded introductory section, but it is disappointing that this vitally important topic for the user of the forecasts was not greatly expanded, especially since this quinquennial publication has now become a recognised source of population forecasts to which reference is widely made.

Although it is possible to write volumes on the limitations of the forecasts, especially those based on trend projections, some form of acknowledgement of the implications of using such forecasts for planning purposes, and a comparison of these implications with those derived from non-trend approaches to forecasting, should be made.

As they stand, the cautionary notes indicating the limitations of the forecasts infer by implication (as indeed is common with most similar publications) that although the forecasts are necessarily prone to many sources of error, they still have to be made, since they are necessary for planning work. It is therefore implied that they should still be used, even if reluctantly so, because there are no better alternatives.

However, the impression that should have been conveyed is that such forecasts are based on trend projections and, as such, indicate a future state that is dependent upon the premise that the past, in relation to the present, will determine the future. This means of course that if such trend historicism is accepted then the purpose of planning is negated. Notes on the use of forecasts should

therefore be explicit in making this point by indicating to the reader that the forecasts are based on projections that reflect trend and should be used as a measure to decide whether planning away from the trend is desirable. Moreover, a publication such as this ought to indicate the various ways of approaching and treating the future state in order to put the trend approach (with all its variants) into perspective.

Current thought on forecasting philosophy is moving away from the trend-based approach to the normative approach (with all its variants) to the extent that planning processes are recognised no longer as being dependent upon forecasting processes but instead are being recognised as the forecasting processes. Planning and forecasting are becoming integrated into one normative process in which trend projections, which sustained the old "survey, analysis plan" procedure, have only one role to play — that of providing a rod against which the amount of change that is considered desirable and feasible may be measured.

It is not until it becomes recognised that man is now capable of shaping his own future by viewing alternative feasible conceptions of it and then choosing and building the alternative that he wants to, that the planner will be capable of being one step ahead of development instead of one step behind it.

It should be made quite clear in a publication such as this just what the limitations and implications are of the various ways (both trend and non-trend) of forecasting the future state. Only then would the reader be in a position to make up his own mind as to which way to regard and use it in his planning forecast — whether to regard it verbatim and use it in his planning scheme accordingly, which may negate the very purpose of planning, or whether to regard it as one possible future which may be subject to manipulation.

— R. G. Turner

Environmental Management: Planning for Traffic; Jim Antoniou, McGraw-Hill, London, 1971. 171pp. \$15 approx.

This well-presented book contains five chapters covering an introduction to the subject; a description of environmental and traffic management; the factors involved; techniques; and their application. Unfortunately, the work proves to be little more than an appendage to the ten-year old "Traffic in Towns", the report in the which phrase 'environmental management' was first coined. The Buchanan team defined it there as a technique whereby "the environment of an area could be protected against the adverse effects of motor traffic by measures designed to prevent the entry of extraneous traffic, and to reorganise internal flows so they are less damaging in their effects". Buchanan went to some lengths to point out the difference between environmental management and the traffic management techniques so familiar to civil and traffic engineers. Contrary to the claim made on his behalf by Walter Bor in the Foreword, Antoniou echoes the distinction without adding to the sum total of knowledge on the subject. In the final chapter, Antoniou discusses the use of environmental management techniques in such diverse places as the ancient town of Warwick, Philadelphia's Society Hill, and the Hague's Hoog Straat. No explanation is offered for the particular choice and one is left with the impression that examples were not easy to find. Indeed, it is a sad commentary on the state of the play in Britain that London St, Norwich, can still be offered as an instance of the successful closing of an existing shopping street to vehicular traffic. The only surprising thing about that narrow thoroughfare of some twenty feet of total width, including footpaths, is not that it is now closed to trucks and cars, but that it was ever open to them in the first place. The British have done a great deal of talking and writing about the

consequences of vehicular-pedestrian conflicts but have seldom enough put their ideas into practice.

In New Zealand, we have been alert to the need to make the passage of pedestrians in city shopping streets more pleasant. Vulcan Lane, Auckland, is an excellent example of a modest project, skilfully executed; Cuba Street, Wellington, an example of an ambitious proposal incompetently developed. Both have served as useful models, inspiring variations on the theme up and down the country. It is in other parts of our urban areas that we have lagged: industrial traffic weaving its cross-city path through erstwhile quiet residential streets; main intra-city routes intimidating the occupants of primary schools and hospitals; the constant exercise of traffic management techniques without a planning policy frame work. Antoniou's book, on close examination proves to be a disappointment, but it covers a subject upon which municipal engineers should no longer be able to plead ignorance.

They should therefore make themselves familiar with this book's contents even although they may doubt the value of a personal copy.
J. R. Dart.

Correspondence

Sir,

The Executive of the Building Research Association, New Zealand is contemplating a housing research programme.

Although the Association has some firm avenues of research in mind, it nevertheless likes to hear the views of outside organisations.

It would in particular welcome suggestions which would contribute to a meaningful housing research programme.

We hope, by assuming the co-operation of the different sectors of the community, to gain a benefit for New Zealand as a whole.

We trust you will be a willing participant in this.

E. F. Schwarz



INSTITUTE AFFAIRS

RECENT MOVEMENTS

P.W.T. Bagnall, MRTPI, (M), from private practice, Auckland to City Planner, Palmerston North.

H. F. Bhana, MRAPI, (M), from JASMaD to Senior Planning Officer, Auckland City Council.

C.M.T. Brown, BA(Bristol), DipTP (London), MRTPI, (M), Senior Planning Officer, from Ministry of Works Wellington to Ministry of Works, Auckland.

P. A. Carew, BA(Auck), to Planning Officer, Auckland City Council.

R. D. Clark, BSc(Wales), DipTP (Leeds), MRTPI, (M), from England to Senior Planning Officer, Ministry of Works, Wellington.

R.J.P. Davies, Dip Arch, DipTP, ANZIA, ARIBA, (M), will study urban renewal techniques overseas as winner of the \$3,500 Winstone Award.

R. M. Dunlop, BA(VUW), (S), Head Office to District Office, Ministry of Works, Wellington.

K. G. Enright, BA(Otago), DipTP (Auck), (M), from Wellington

Regional Planning Authority to Lecturer, Canberra College of Advanced Education.

M. B. Elliot, DipTP(Auck), MNZIS, (M), senior planning officer, Auckland Regional Authority, on short leave to the U.S.A. as a New Zealand representative at a U.S.-sponsored Asia-Pacific city planners' study programme.

O. A. Evans, DipTP(Auck), MNZIS, ARICS, (M), N.Z. delegate to conference of Commonwealth Association of Planners at Delhi.

M. J. Garland, BA(Massey), (S), Planning Officer, from Ministry of Works, Wellington to Ministry of Works, Dunedin.

K. J. Garratt, MNZIS, ARICS, from Surveyor, Lands and Survey Department, Rotorua, to Planning Surveyor, Lands and Survey Department, Wellington.

L.J.A. Gow, BA(VUW), (S), Planning Officer, from Ministry of Works, Wellington, to Ministry of Works, Hamilton.

E. R. Henderson, Dip Urb Val, DipTP(Auck), (M), from Senior Planner, Perrott, Lyon, Turnlock & Kesa, Melbourne, to Regional Planner, Wellington Regional Planning Authority.

F.W.O. Jones, BE(NZ), AMICE, MNZIE, (M), from Director of Planning, Auckland Regional Planning Authority, to Tonkin & Taylor, Auckland.

E. F. Schwarz was incorrectly stated in the last issue as moving to Wellington. He is now the Housing Research Officer with the Building Research Association at Auckland.

M. R. Simister, BA(Auck), from Auckland Regional Authority to Dunedin Metropolitan Regional Planning Authority.

D. A. Rushforth, BSc, DipTP(Auck), (M), to a regional planning project with Doxiadis Associates International Co. Ltd at Riyadh, Saudi Arabia.

New Student Members

D. F. Adams, BA (Wisconsin)
R. L. Demler, BA (Massey)

S. Abu-Bakar, BA (VUW), has been re-instated as a student member.

M. J. Garland has resigned from student membership.

SUMMER SCHOOL, 1974.

The Institute is in the process of organising a Summer School to be held at the University of Auckland from the 19th-23rd January 1974. Persons other than members of the Institute will be eligible to attend. Suggestions as to the programme content are welcomed and should be sent to: The Secretary, New Zealand Planning Institute, Box 5131, Wellington.

NEW ZEALAND PLANNING INSTITUTE Professional Cards

These notices are inserted for the general information and guidance of the public. The consultant firms listed have one or more Members of the New Zealand Planning Institute amongst their partners.

James Beard & Co.,
P.O. Box 5050,
Wellington.

Alex Bowman,
320 Trafalgar Square,
Nelson.

John Watson Cox,
41 Ngaio Road,
Kelburn,
Wellington.

Curtis & Simmons,
10 Takutai Avenue,
Bucklands Beach, and
152 Hobson Street,
Auckland 1.

Davie, Lovell-Smith & Partn
P.O. Box 679,
Christchurch.

Davie, Lovell-Smith & Partners,
P.O. Box 679,
Christchurch.

Russell Dickson,
17 Peter Terrace,
Auckland 9.

**Fraser, Thomas, Gunman,
Shaw & Partners,**
152 Kolmar Road, Auckland, and
P.O. Box 17, Kaikohe.

Gabites, Alington, & Edmondson,
P.O. Box 5136,
Wellington.

**Jelicich, Austin, Smith,
Mercep & Davies,**
P.O. Box 6648,
Auckland 1.

Kingston Reynolds, Thom & Allardi
44 Wakefield Street,
Auckland 1.

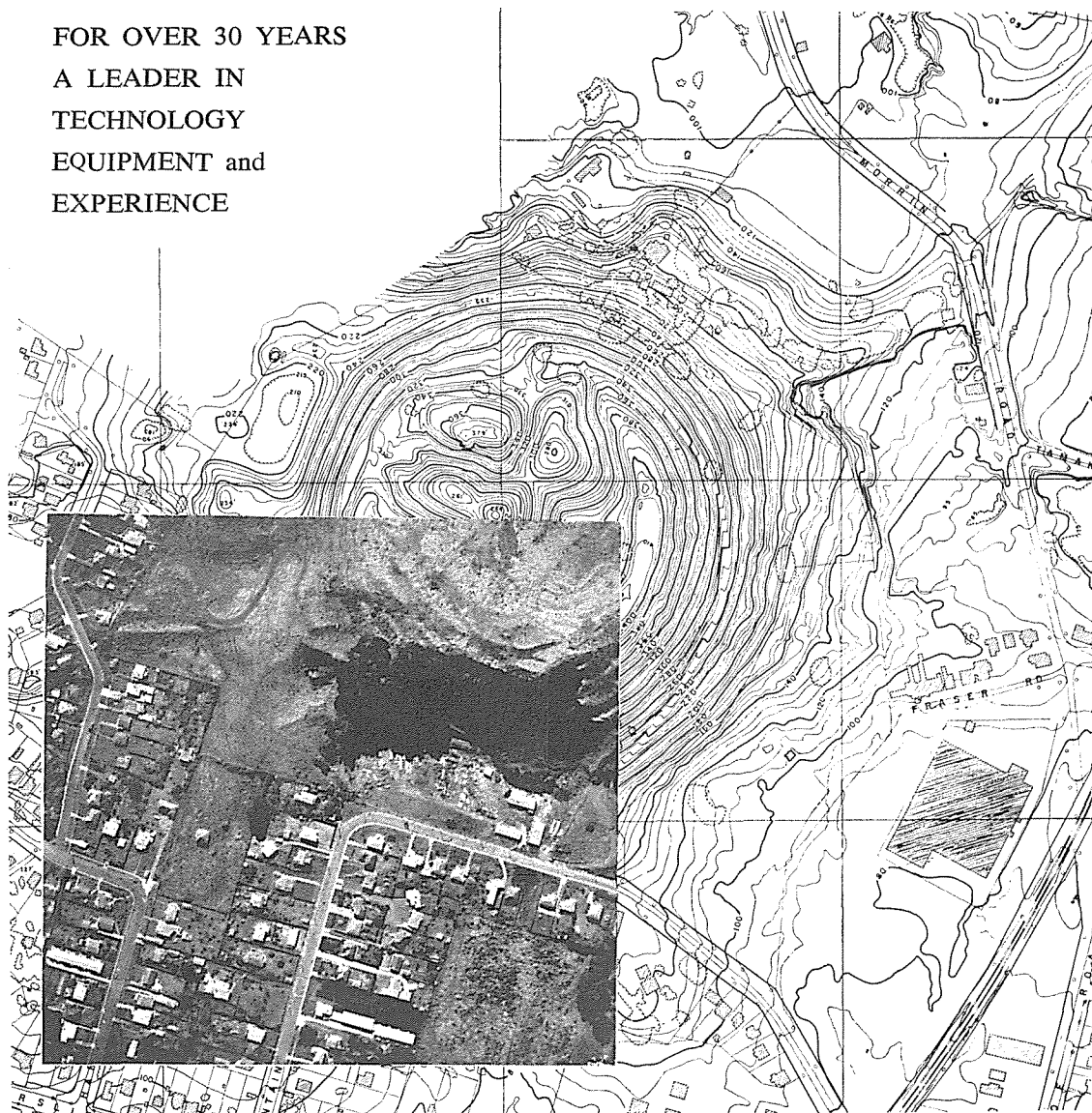
Murray-North Partners,
Murray-North House, 9 Gore Street,
Auckland 1. and
P.O. Box 9041, Hamilton.

Earnest N. New & Associates,
P.O. Box 93,
Invercargill.

Maurice B. Patience,
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