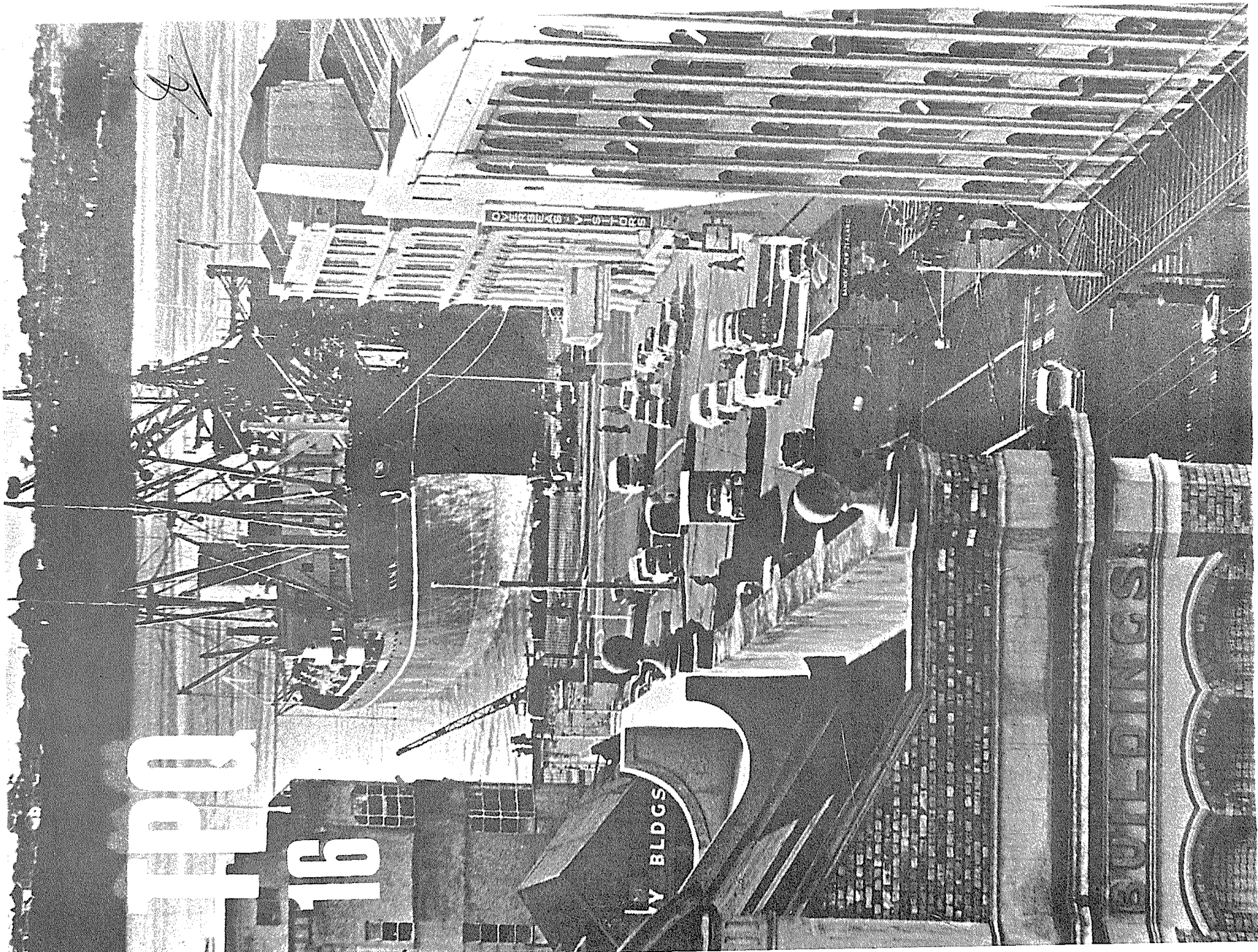
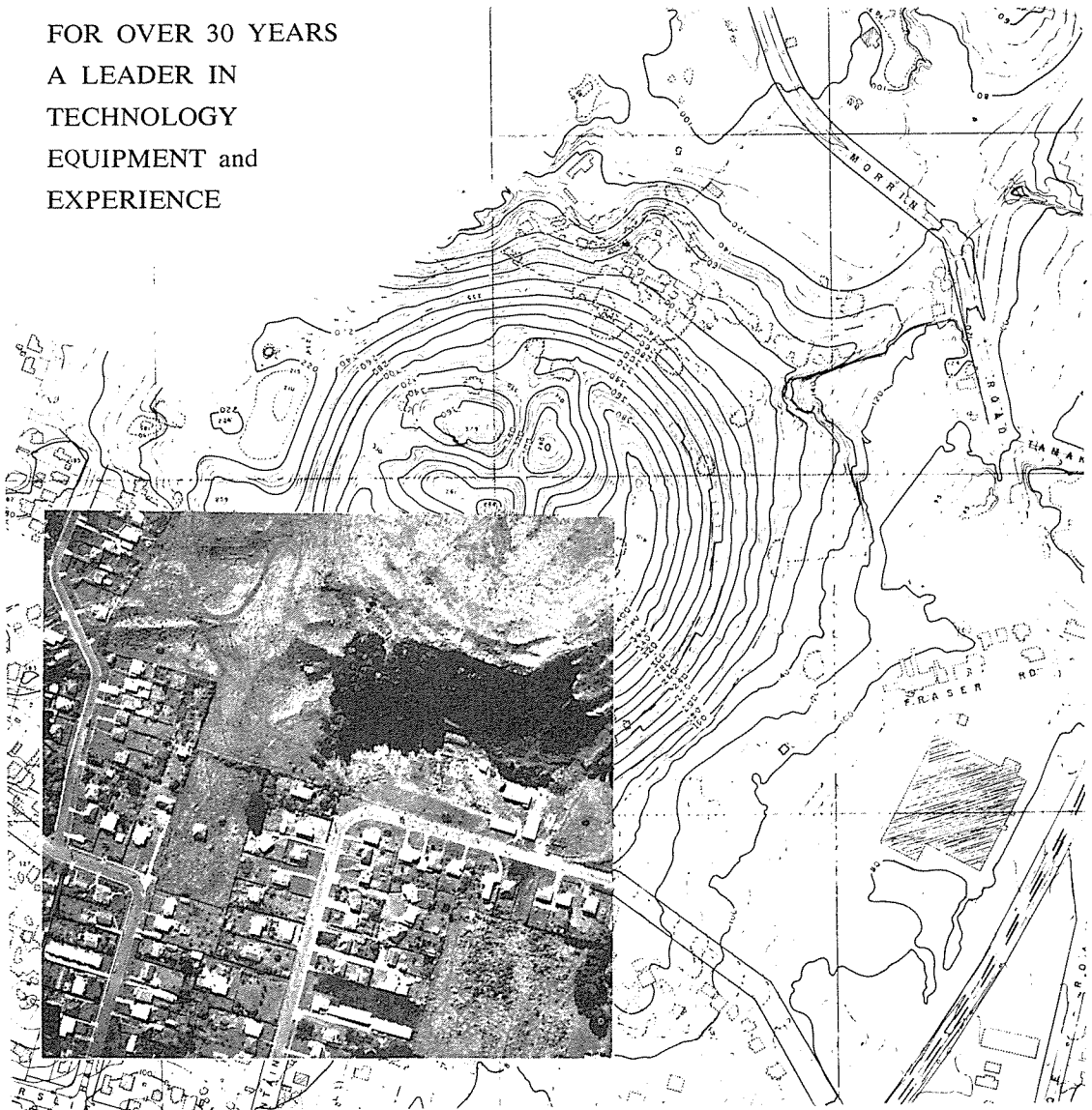


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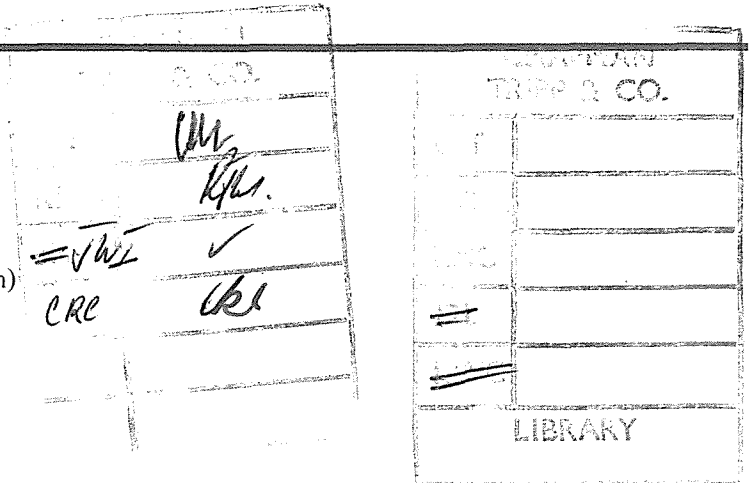
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TOWN PLANNING QUARTERLY

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FACT & OPINION

An editorial notebook

Warts and all

A correspondent, whose letter is published in this issue, expresses regret that moments of self-criticism amongst planners should be given a public hearing from time to time. He suggests that such a tendency may explain why it is that the general public is not developing a greater degree of confidence in the ability and competence of professional planners than it at present holds.

The letter implies that such criticism should be conducted behind closed doors and that a bold front should always be presented for the public's gaze. We take his point. The public may be encouraged to conclude that the planning profession does indeed lack in self-confidence and cannot yet be worthy, therefore, of the conferment upon it of increasing responsibility and the guarantee of larger and more responsive audiences.

It is enticing counsel, but it is a temptation that should be resisted. Self-criticism is a mark of confidence, not the lack of it. All criticism requires a base against which to work, it is relative rather than absolute. Planners in New Zealand have, in the short space of a decade or so, reached a point where they can begin to discern a tangible framework emerging from the primal mists of myth and legend. That in itself is no mean achievement. We are, at last, beginning to understand the scope and limitations of our profession.

Criticism from within merely anticipates criticism from without. It is far better that we should acknowledge our own shortcomings whenever we become conscious of them rather than wait, with mounting tension, for the forced march to the stocks and confrontation with the jeering crowds.

We are too young a body yet to have deserved Shaw's dictum that all professions are conspiracies against the laity. But we are old enough to take a good look in the mirror and to have the confidence to instruct the artist to, "use all your skill to paint my picture truly like me, and not flatter me at all; but remark all these roughnesses, pimples, warts, and everything as you see me, otherwise I will never pay a farthing for it".

The public, for its part, as the same correspondent so rightly emphasises, needs to be reminded with some frequency, that those representatives of the people, the politicians, make the final decisions. The public also needs to recognise that, in a society where a promise of cheap government is tantamount to a guarantee of election, there should be no cause for surprise when austerity or shoddiness, or both, prove to be the basic characteristics of that government.

Private taste and public task

It is no reflection upon our society to observe that the most significant foreseeable improvements in our physical patterns of land use occupancy will be achieved, not by evolving new land use theories, nor by attempting to adapt overseas concepts for local consumption, but by the conscientious application of pragmatic solutions to what we see to be the least desirable of trends. For example, a major improvement in land use control technique could be made, not by the re-writing of the Town and Country Planning Act, but by the dele-

tion of the Fourth and Fifth Schedules from the Regulations.

In a comparable way, the greatest improvements in the problem of the accelerating conversion of the coastline and lakeshores to sites for holiday and weekend bach settlement, can be achieved by giving attention to two aspects of the phenomenon. There is little enough cause for congratulation concerning the physical form of such development, but the answer lies not in passing general comment at annual conferences nor in periodically expressing regret at the low level of attainment reached by bush carpenters working to the back of the cigarette packet plans of the bush architects.

There is, demonstrably, a great sense of creative achievement in designing and constructing a bach and it is highly questionable that such amateurish efforts should be prevented because they offend against the levels of taste of the more knowledgeable or the more sensitive.

The most satisfactory solution lies in showing the weekend builders how to improve upon their present standards. Technical college and university extension classes in bach design, materials and construction would go a long way towards encouraging New Zealanders to give the same sense of dedicated craftsmanship to their holiday homes as they have always given to their boats.

For the less independently-minded, a choice from two dozen professionally-designed sets of plans made available at a nominal fee, or a similar choice from a similar number of pre-cut packages delivered to the site, would be equally as effective. If one of the major timber firms for example, were to be persuaded to run a national competition for such designs, it would have well-spent its allocated advertising budget, acquired unto itself considerable prestige, and done the country a commendable service.

The other aspect of the problem requires a more painful course of action since it means the expenditure of public funds and, therefore, either a reallocation of existing monies, or an increase in taxes of one kind or another. The task here is the public acquisition of the freehold or the development rights in the best of the remaining undeveloped land bordering the coast and lakes.

In this context, the Lands Department is doing a good job at the small scale that its current budget permits, but the eagerness with which many county authorities welcome the primitive subdivisional scheme plans that are still too often put before them, strongly suggests that

local government in this sphere is either ill-advised or that it sees its duty as being towards its present ratepayers at the expense of all other considerations. But whatever the reason, it will need more than the periodic public wringing of hands on the part of the professional institutes most concerned if those august bodies are going to make any effective contribution to the subject.

In this context, the following comment from Charles Adrian to an American audience of planners in 1962, should be pinned large in the offices of all planners, whether actual or self-styled: "It is . . . true that planners can never claim to have the answers to social and physical-structure questions, except to their own satisfaction. If the citizen fails to consider tomorrow, has oafish tastes, and refuses to concede that others may have perspectives that are more valid than his own, the planner can disagree with him, but he cannot prove him wrong. And above all, he must come to accept the professionally-unacceptable notion that in a democracy it is the popular and not the informed concept that prevails much of the time. No theorist argues that democracy is the most efficient form of government, or that it is the structure that maximizes the chances of the well-informed to convert their ideas into public policy. Its purpose is to permit a maximum of individual choice or freedom, no matter how uninformed, unless such choices infringe heavily upon the preferences of many other citizens. The planner will usually have to settle for leadership by slow education of as many as will listen."



URBAN RENEWAL

"While recognising that the prime responsibility of initiation lies with local authorities, we accept the fact that urban renewal cannot be undertaken successfully without public support and the co-operation of private enterprise backed by financial assistance from the Government".

— Report of the Urban Renewal Study Group 1966

The Johnsonville town centre is an example of a planned comprehensive development involving the demolition of blighted premises, widening of the main thoroughfares, closing of subsidiary streets, provision of ample parking and the relocation of shops and offices in pedestrian malls closed to traffic and protected from the weather.



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Training technicians

The annual report of the Council of the Institute, which appears elsewhere in this issue, notes the decision of the Technicians' Certification Authority to discontinue, the town planning option in the Draughting Certificate course. The council also notes that it has been approached by the Institute of Local Authority Administrators concerning the provision of training in town planning for those of its members who may be interested. The council, in its wisdom, decided to take no action in the meantime. On the face of it, it is a somewhat surprising decision to have reached and the reasons for it will no doubt be the subject of some debate at the annual conference. The decision of the Certification Authority is even more surprising.

One of the difficulties that, traditionally, has plagued the professions in New Zealand, has been the lack of the technically-trained personnel who have possessed the knowledge and the skill to carry out the routine, the repetitive, the relatively elementary tasks, that have distracted professional people from the more involved or more creative aspects of their work. This absence of competent sup-

porting staff is as marked a feature of town planning activity as is the shortage of professional staff itself.

The practising planners must be few and far indeed who have not had to carry out all the detail of their own land use studies from time to time because of the absence of trained assistants. Most offices must have lost many professional man-hours of work during the course of the year because of the necessity to attend, personally, to all kinds of routine matters out of the lack of opportunity to delegate tasks. There are, demonstrably, a number of people who would be eager to enrol for any course that undertook to give them a competent technical training in town planning.

On the one hand is the planner who seldom has time to sit and think, and on the other, the would-be assistant who cannot find an agency that will make available the education that he seeks and needs. The columns of this journal are open to anyone who wishes to express an opinion on how this collective sense of frustration may be eased, and especially will the views of the aspiring technicians themselves, be most welcomed.

Don't contain yourself

The trouble with a change is that by the time we get used to it, it changes. This is unfortunate. It leaves us generally unable to react to a new situation until it is too late. This is frustrating. All the carefully calculated responses, the cunningly conceived counter-measures, are obsolete; the problem-solving, reaction-forming mechanism is so slow to function that by the time it produces an answer, it is an answer to an irrelevant question. In an evolving situation failure to respond can be fatal.

Iron ships with steam engines were revolutionary, in their day. Steamships were so clearly superior to sailing ships that, within a short space of time, the carriage of cargo under sail was a curiosity. All that was in the past century yet, looking around our major ports, it is difficult to say that town planners have come to suitable terms with all the side-effects of steamerisation.

Now, it looks as if the life expectancy of conventional cargo boats is about to be drastically reduced. Even if containerisation is only half as good as everybody says it is, it is going to have an effect similar to that of the steamship upon the movement of goods. Containers appear to be the BIG coming thing for the movement of goods in the second half of this century.

But the success of the container at sea is dependent upon the use of the container ashore. Gone, or going, are the cargo stores, wharf-side warehouses, the myriad cranes and the manhandling; coming are the giant gantries, rubber-tyred straddle cranes, welded-coupling trains, trucks and trailers, and container parks. Cargo will be moving without being handled: door to truck to train to park

to ship to park to train to truck to door. That is the essence of containerisation.

The projected use of containers will only be a drop in the ocean when compared with what will actually happen in the next twenty years. In order to catch up with the trend, our major port agencies are going to have to move fast. There is time, perhaps, to convert a wharf here, reclaim an acre or two of harbour there, buy one container handling crane, but what then?

Because of the circumstances surrounding their development, our old (fashioned) ports lie at the very centre of urban activity - a place where they no longer *need* to be; a place no longer easy of access to the convoys of land distributors; a place constricted by its own original attraction. Today, nearness is measured in terms of time and convenience not physical distance: "near to Wellington", for example, is no longer at the end of Queens Wharf.

As far as most town planners are concerned, the container issue does not stop, or start, at the level of the competitive battle between the ports, but begins with the effect of containerisation upon the structure of port cities. But what advantage will the remainder of the system take of the container revolution?

Backward-looking planners, carefully analysing already developed patterns, will conclude that: "existing conditions will be most likely". Surely part of the game is not to foresee the future, but to see advantage in new situations. Other groups in our society have already seen enormous advantages in containerisation and have started to adjust to the changing situation. A well-organised unit, whether it be a virus organism or a various organisation, depends for its success upon its ability to react to the advantages offered to it. This reaction is dependent upon the ability to recognise advantage.

Planners cannot go on trotting out the same old pattern of development of cities, especially port cities. The container will be as upsetting to the established urban pattern as was steam power and the rubber-tyred motor vehicle.

Speak up visionaries. Think. Think BIG. Don't let small ideas of modification and adjustment stand in your way. Planners may as well help to make the mess (lots of fun) instead of always having to clear it up (not much fun). But, whatever you do, don't contain yourselves when it comes to containers.

Land use classification

Although there is a great difference of opinion as to the ways in which we should plan to move into the future there is little doubt that to plan more effectively planners need to know a great deal more about the communities they plan.

One of the traditional means of acquiring a large part of this knowledge has been the land use survey. The effectiveness of such surveys to contribute to the planning process will depend on the way in which the collected information is organised. An essential part of this organisation has always been the classification or grouping of land uses.

One of the foremost reasons for the construction of land use classifications has been the complexity of the patterns and inter-relationships between land uses, and between these and other facets which go to make up the urban system. Land use classification is further evidence of the extension of precise analytical methods into the field of planning. It is on the basis of the understanding of the urban situation thus obtained that all planning is based. Thus any deficiencies in the system of analysis will almost invariably result in deficiencies in the plan. As the planning process has grown in complexity it has adopted and adapted techniques from many other subjects. One, of great significance to land use studies, has been the technique of automatic data processing. Automatic

data processing has allowed planners to handle increasing volumes of data about land uses at speeds which make the manipulation of these figures a realistic task. At the same time it made more urgent the formulation of means of organising the data in a manner appropriate to the machinery available to process it.

In the case of land use studies the evolution of coding systems and the classification of uses went hand in hand. The result has been the production of numerous land use classification/coding manuals, notably in the United States of America, and more recently by the larger local authorities in New Zealand.

In the first flush of excitement which accompanied the advent of automatic data processing new approaches to the classification of land uses were concentrated more on the greater sophistication of existing systems than on attempts to exploit fully the advantages of automatic data processing. Generally it was assumed that automatic data processing would allow planners to do a little more a lot faster. There was at the outset no question of the rightness of what was being done.

There was, however an increasing body of opinion among planners that there was a pressing need for comparability between land use surveys undertaken in different areas. Standardisation of land use data recording systems was seen as an urgent task. The ability to thus pool information, experience and expertise was seen as one way of increasing the efficiency of planning itself.

It is inevitable, as the numbers of specialist manuals, articles in professional journals, and less direct references to land use classification in textbooks on town planning increase, that questions as to the value of some of these exercises will be raised. It is becoming apparent that the purpose of land use classification has been submerged by the process of sophistication. If this is allowed to proceed unchecked little benefit to planning will result. The development of an already existing process by increasing the complexity of the solutions to the various stages often conceals the fact that the system itself is questionable. Much of the process associated with land use classification has become a pseudo-activity, both mixed in its techniques and confused in its purpose. There never seems to have been a completely clear concept of exactly what objective town planners have in mind when they attempt to classify land uses. Nor does there seem to be a clear understanding of the process

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of classification or how it can help planners in their investigations.

It is not the purpose of this article to press for a particular land use classification system, useful as this may be. One of the early contributors to the application of automatic data processing techniques asserted that "better techniques in land use planning hinge on a uniform land use classification" (1) This may or may not be so. What is clear is that better planning cannot fail to be produced by a clearer understanding of the classification process and its application to the analysis of land uses.

It is often mistakenly thought that land use classifications can be used as a basis for planning. Allocation of future urban uses on the basis of a system which has been devised as an aid to studying land use patterns by identifying and naming activity units is to misunderstand the purpose of such an exercise. Classification, the purposeful grouping of individuals on the basis of certain like characteristics, has been devised as an aid to understanding because, by grouping, general statements may be made about the group. It is from the understanding that plans may be made, not from the means of obtaining understanding.

Cities are arrangements of complex inter-relationships between a multitude of elements. Very few classifications do more than recognise one of the elements involved in the relationships. Because of this classification should be carried out in a way that allows the activity unit to be treated as an individual able to fit into any pattern of relationships. It is basic to any classification process to start with the individual and the array of characteristics that it possesses. A classification is only a means of arranging individuals on the basis of specified characteristics. The individuals still remain individuals in respect of their sum of characteristics.

To better understand the value of classifications a distinction must be made between the absolute individual and the "individual" represented by the sub-set created in the process of classification. The former is the sum of all its characteristics. The latter is an individual only in terms of particular characteristics. In the case of land uses the sub-set is a collection of objects with similar stated characteristics describing its function.

The general type of classification that is now in common use, contains four levels (theoretically capable of expansion to five, six or more levels if necessary). The logic of such a classification is easy to follow: each level de-

fines a more precise means of identification. However, there is nowhere a description of the characteristics used to define and distinguish each group except a concise verbal description contained in the name, for example :

- "3 Manufacturing
- 31 Leather and leather products
- 314 Footwear, except rubber
- 3141 Footwear, except house slippers
- 3142 House slippers" (2)

It is clear that this position and the label 3141 tells the user of the classification no more than that the activity is a factory for the production of leather slippers based on the distinguishing characteristics that it makes things, these things are made of leather, they are house slippers. The sub-set thus formed could be defined

(All activity units that make leather house slippers)

So far so good but the planner is completely unaware of any other characteristics of the use, and they certainly have not been used to classify it. They are not implied in the label, and if they have not been collected no amount of looking at the code 3142 will produce the floor areas, number of employees, or whatever else by way of characteristics the planner might need.

While classification is extremely useful to construct some sort of order as an aid to either memory or understanding it does have the drawback that, notwithstanding the fact that it uses differences to distinguish the various classes, once an item is included in a class all the individuals are often treated as being alike and their differences are ignored. Provided class words only serve to remind us of common characteristics they are a valuable aid. But if the use of a class name obliterates, or prevents recognition of the differences in the characteristics it can do more harm than good. Two objects in the same class are not necessarily "alike". The only thing that can be deduced from their mutual position is that they have certain defined characteristics in common. If this is not realised it is very easy for classes themselves to become a restriction to understanding. This is especially so in planning where one of the tools for obtaining an understanding of land use patterns also often becomes the means of developing new, and reconstructing old, patterns.

This error can be avoided from the outset if the process of classifying is seen for what it

is: a means of sorting objects into groups which share the possession of certain characteristics. This will require for many a change of viewpoint. **Instead of associating with each object its list of properties, classification allows us to associate with specific properties collections of objects.** (3)

For the purpose of arrangement in subsequent classifications groups of objects can only be considered to comprise an "individual" if they have all their characteristics in common, except of course the fact that they are separate items. The only unit suitable for regrouping is such an individual. If any grouping contains individuals that are not identical in all respects then it is a classification and at the most it can only be assumed that the individuals are alike in the characteristics selected as the basis for classification.

The question of great importance to land use analysis is to decide on the object or individual which is to form the basis for regrouping in any number of classifications. Here there arises a difficulty: is the object the spatial unit or is it the activity unit? Clearly any classification of activity units is just what it states, a classification. It does not produce in its finest detail individuals that are alike in respect of all their characteristics. It deals with stated functions not generated characteristics. In this sense it seeks to establish individuals that all do the same things but in no sense does the classification indicate the way in which those things are done. One of the difficulties produced by classifying land use activity units is that reference is made to characteristics that only in a general way concern the planner. In effect the distinctions provide labels in case the packet gets lost, or is wanted but they are in no way indicative of the contents.

The classification of land use activities in all modern classifications is based on meaningful distinctions for labelling purposes only, other characteristics not necessarily being exclusive to the group of individuals. It could easily happen that all the activity units included under one label might all have different values for their other characteristics, which were not and should not be used for classification. Thus the purpose of the classification of land use activities seems to be to provide a quick reference system based on a single characteristic of activity which will serve as a means of identification for the new activities but which is in no way based on the possession of other common characteristics. These common characteristics may

exist but the classification does not even attempt to use them as a means of classification.

In such a system it will be important to note when new activity units appear and be able to accommodate them in the new system as new individuals. Although one difficulty will be deciding when it is a new activity. Such a system is really a rationalised naming process, so that an individual may be constructed by means of the classification.

Two points now become clear. The first is that planners are classifying activity units so that they might know when they have what can be considered an individual activity; that is an activity which for the purposes of the planner can be considered the same as any other activity placed in the same position but (if the rules of classification are to be adhered to) only in terms of the defined characteristics which placed them in that position. There is no justification to assume that they have any other characteristic in common. To identify such an individual can have certain advantages, for example it will enable comparisons to be made between the generated characteristics of particular groups of activity units.

The second point is that the activity unit so classified is not the primary individual in the set which the planner seeks to classify but only one characteristic which attaches to place. The implication that the planner has not been dealing with the basic individual in his attempts to understand land use patterns is a significant point that must be recognised. The Standard Land Use Coding Manual is quite clear that it is making this sort of distinction, and is in fact only classifying activity as one of an infinite number of sub-sets based on characteristics relating to identifiable space.

"... the study concluded that each separate dimension or characteristic (of a piece of land) be defined by a separate classification system" (4) Thus the basic individual with which the planner is concerned is not the activity unit but the identifiable unit of space to which all characteristics are attached. In order to attach them in some logical manner each characteristic may well need classifying, but too much should not be read into the significance of the resulting classification.

One thing that is certain is that planners are, or if they are not they should be, more interested in the characteristics possessed or generated by the use than in the name which

attaches to it. The only use of the name is to know if there are any other objects which possess the same defining characteristics. It seems clear that the planner is dealing with collections of places, because not only is he interested in what is happening, but where it is happening. That the two cannot be considered apart is obvious. Because the "what" is described not by its name but by its characteristics the individual to which they attach must be the "where": this is place. This does not necessarily take away the value of a land use activity classification but it presents it for what it is: a classification based on the one characteristic of function.

Good classification does not fix anything: it merely arranges it. If the classification destroys individuality it defeats its purpose. For this reason it is useful to classify after the observation of characteristics and not before. To collect further information on the basis of classified individuals will destroy the usefulness of the inventory for this information will relate not to the individual from which it was collected but to the group (constructed individual) to which it was consigned. The example here is easy to find. Other agencies classify activities according to their opinion of the similarities and on the basis information is collected and tabulated. This really is a case of one man's *meat* being another man's *poisson*. To obtain information for a comparable individual the planner must either adopt the same groups or reassemble the individuals so that comparison may be made. The first alternative relies too heavily on the other organisation making the "right" groupings. The second requires that the planner works with individuals capable of reassembly.

As has been shown, any system which destroys or conceals this individuality is of little use to the planner in making analyses of urban situations. Such a limited system may be of use to the group or person for whom it was constructed but by its nature cannot be generally useful in urban analysis. Certain fundamental things must be understood about classification if its use is to be of general value to planners and particular value in the analysis of land uses.

Data collected must be related only to the individual to which it belongs and not to some constructed greater grouping of individuals. To do otherwise ignores the fact that individuals can be related in many different ways and to group them for one purpose may prevent the information related to them being grouped for any other purpose. Wastage in surveys will not

be overcome by a standardised classification but merely by coordination of data collected.

Out of all this comes the main conclusion that the basic unit planners are dealing with in towns are spatial units and that the identification of these in a meticulous manner will be the only means of obtaining an individual which can be classified in a multitude of ways on the basis of any of its characteristics. One of these characteristics is activity which is the subject of one particular classification.

The classification of activity has assumed undue importance in the process of land use analysis. As the Standard Land Use Coding Manual points out it is only one of a host of characteristics possessed by land/space, all of which are important to planners. Accepting the principle that the individual is the only useful starting point for the formation of any groupings/classification then an urgent need is for the production of a detailed space referencing system so that place can be identified with confidence. In the past ground space has been identified with ease. The need is now to identify space within multiunit multi-purpose buildings.

For land use survey the most important reason for classifying is to arrive at a system which allows an easy reassembly of any of the generated characteristics into a variety of groupings. Any system which "buries" characteristics by grouping activities too soon will only further the cause of those using broad ill-founded generalisation to plan at a very detailed level.

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Effect of transit station location on CBD building density

The following notes were preceded by some work, which attempted to establish a mathematical relation between the floor space in commercial buildings, and the width of the footpaths alongside them.

Building control was seen to be directed to a dual purpose: firstly to prevent buildings from encroaching to an intolerable extent on the daylight available to the public street and other buildings, and secondly to prevent a population density which would force the users of buildings to resort to staggering working hours in order to reach their offices or work places within an acceptable time, or to leave within a similar span. Thus, the first aspect of building control would be exercised by daylight indicator techniques, and the second by the use of a floor space index which would relate the space within buildings to the space available for people outside, on the ground or other footpaths.

A formula was worked out which related gross floor space of buildings to the floor space on the footpath system available to the people

in the building block. The formula incorporated a number of variables: the net floor area per person, which might vary, typically, between 60 and 200 sq.ft., and thus showed that the specific use of the building was important; the "efficiency" of the building, i.e. the proportion of actual working space to total floor space; and the degree of participation of the building population during the peak hour rush. Moreover, a "dispersal factor" was introduced, which varied according to the rate at which people were picked up by various means of transport as they walked along the footpaths, thus making room for others to take their places. Other factors were found to be stable: there was a saturation flow of pedestrians, and a saturation speed at maximum congestion.

The result of this work was published in the January 1969 issue of the *High Speed Ground Transportation Journal*, Durham, N. Carolina. It is also to appear shortly in the *Town Planning Institute Journal*, London.

The present paper attempts to link rapid transit stations to the system of footpaths and buildings, by extending the scope of the formula previously developed.

We had earlier come to the conclusion that for very short periods of peak movements such as occurred in the New York Garment Centre district when employees poured out their workshops as fast as they could as soon as the lunch bell rang, the amount of floor space is

$$(1) \quad l = .56 \frac{r a}{v k e}$$

sq.ft. per ft. frontage per ft.
width of footpath.

where r = saturation flow of pedestrians, taken to be 26 persons per minute per lane of 22 inches, or $\frac{1 \text{ ft.}}{.56}$ width.

a = net floor space per person in the building

v = saturation speed, taken to be 175 ft. per minute

k = a participation factor, proportion of building population taking part in the peak flow

e = proportion of lettable floor space to total

We then went on to discuss the "sinks" into which the flow of people leaving the buildings drained, or from which they emerged in

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the morning peak period. We found that “universal sinks”, which led to transport facilities connecting to all destinations, had the distinct advantage that people would simply go to their nearest “sink” or transit station. In any other form of transport, the direction of people leaving the portals of their office buildings was uncertain. They might turn right or left, and the number of pedestrian lanes required would have to cater for either possibility. But with “universal sinks”, such as mass transit stations, there will be no overlapping of lanes. (Fig. 1c) For those lanes which drain into such stations, the permitted floor space in the building is :

$$(2) \quad I = .56 \frac{a r t}{D k e}$$

where, in addition to the symbols defined above,
 D = half the distance between stations,
 t = duration of peak flow.

In this formula, however, it can be seen that d is constant, and thus not variable with t, the duration of the peak flow.

In the case where D happens to be the distance one can walk in the peak period, the relation holds good:

$$d = v t.$$

In that case, by substitution

$$I = .56 \frac{a r t}{v t k e} = .56 \frac{r a}{v k e}$$

which is the same as formula (1). This means that if the spacing between stations is equal to or greater than twice the distance walked during the peak period, no pedestrian lanes on the footpath are saved, and there is no advantage in a “universal” transit system over any other system. But the situation changes drastically when stations are spaced more closely. The formula for the floor space in buildings in relation to space on the footpath for longer peak periods was

$$(3) \quad I = .56 \frac{r a}{v k e} + .56 \frac{q a t}{k e} *$$

where q = a “dispersal” factor which depends on the rate at which people are removed from the footpath. (persons per minute, per foot length of pedestrian lane).

Where everybody goes to the nearest transit station, this dispersal factor is, of course, nil.

* The assistance of Mr. Graham Dickson, BE, in arriving at the formula is gratefully acknowledged.

With any other type of transport, however, it becomes increasingly important the longer the peak period lasts, (Fig 2.) but because people have to reach bus stops or car parks in all directions, a great deal of unpredictable overlapping of lanes takes place, which reduces the capacity of the footpath in terms of total numbers. (Fig. 1a, b) The superiority of a “universal” system increases as the distance between stations decreases and as the length of time of peak flow increases. Comparative calculations for alternative modes of transport can be made, using formulae (2) and (3) in order to compare the possible floor spaces in both cases.

It must of course, be presumed that the footpath is in any case wide enough to cope with the flow of which the station is capable. A subway station can deal with 40,000 to 50,000 passengers per hour, or a minute-flow sufficient for 24 to 32 lanes at saturation pedestrian crowding. If such a station is sited at an intersection, and if there are exits at each corner, each exit must have 6 to 8 pedestrian lanes of 22 inches width available for the people who want to use the station. There is no point in having stations which can deal with 40,000 people per hour, and footpaths which can deal with only say 30,000 people per hour,

Assuming that there is adequate footpath capacity, let us compare two situations :

First example: t = 20 minutes
 d = 875 feet, or 5 minutes walk
 a = 150 sq.ft. per person in the building (net)
 r = 26 persons per minute, saturation
 k = .85 of building population take part
 e = .8 of floor space lettable

Then $I = .56 \frac{a r t}{d k e}$
 = 72 sq.ft. floor space per foot length per foot width of footpath.

Second example: t = five minutes
 d = 1200 feet or 7 minutes walk
 all other constants as before

then $I = 56 \frac{a r t}{d k e}$
 = 13.45 sq.ft. per foot length per foot width of footpath.

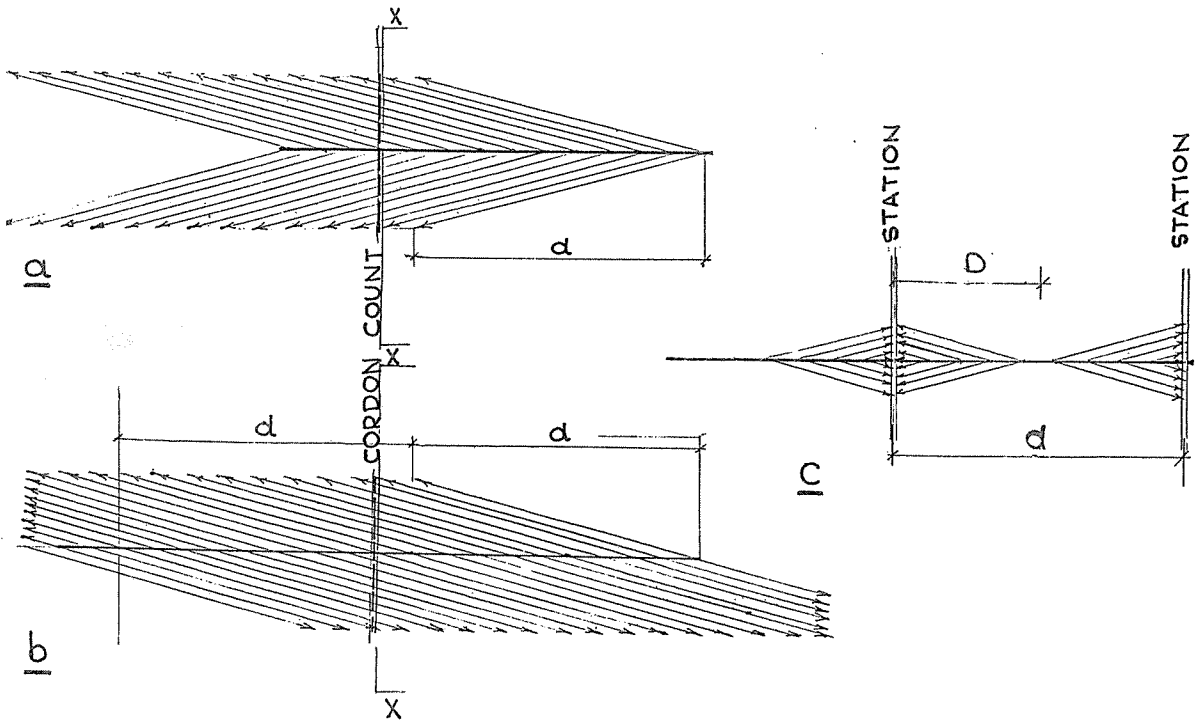


Fig 1

This shows the effect of slightly wider spacing of stations, and of a shorter peak period. The same station entrances can deal with only about one fifth of the building volume with which they could deal in the first example.

We now compare the first example with a similar district, which is served by alternative transport, and we stipulate that the average distance walked shall be no greater than in the case of the "universal" transport, i.e. half of 375 feet. The "dispersal factor" q , which had been defined as the rate at which people disappear from the footpath, is in this case

$$q = \frac{26}{875} = .03$$

and
$$I = .56 \frac{ra}{vek} + .56q \frac{at}{ek} = 18.3 + 7.3$$

$= 25.6$ sq.ft. floor space per ft. length, per ft. width of footpath.

This compares with 72 sq.ft. in the first example. Nearly three times more floor space can be dealt with by a "universal" transit system under those conditions of spacing, than with an equivalent alternative system.

What is more, given adequate footpath capacity to enable the universal mass transit system to be run on two tracks, the station capacity can be doubled, and thus can the building

density be doubled at the cost of 12 ft to 15 ft. wider footpaths.

Conclusion:

It appears that "universal", that is omnidirectional transportation, with a network of stations in a central business district, can considerably increase the permissible building density of the area, provided the ratio of peak time to distance between stations is high, i.e. provided that the peak time lasts long and the stations are closely spaced. There is a limit to both factors: peak times will not usually extend over more than 20 minutes, and stations will not be closer than 600 yards. Where peak times are short, or stations far apart, there is no advantage in a "universal" system over any other transport system. A "universal" system need not connect directly to all destinations. It could be a ring service, which connects to various terminals. It has only to be the best available service.

It remains to point out that daylight and sunlight control continue to be essential in combination with the consideration of pedestrian density controls.

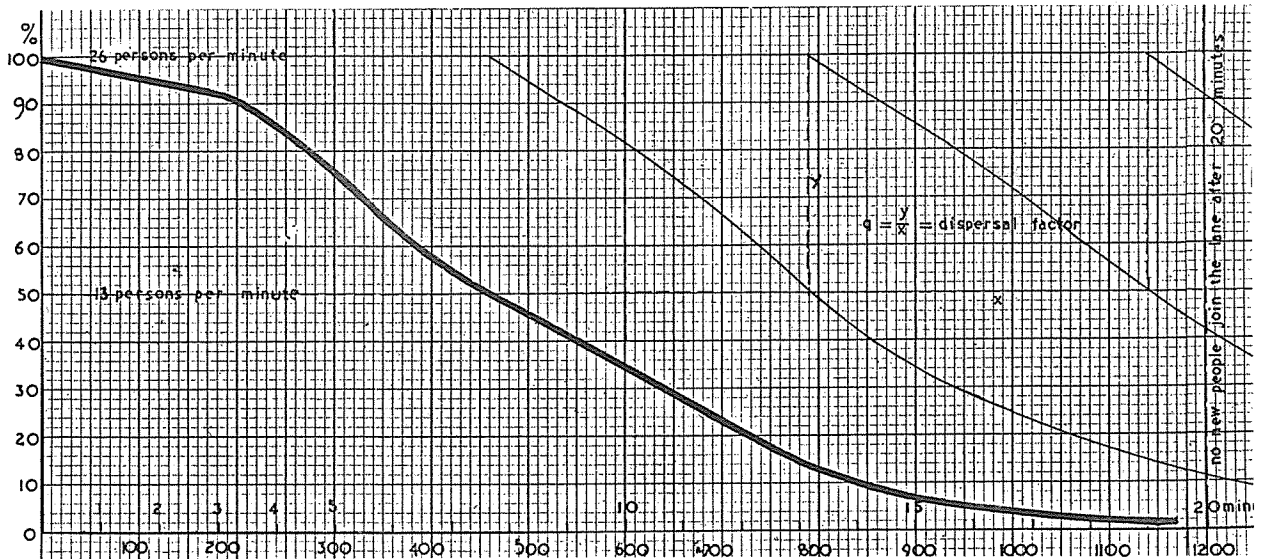


Fig 2

NOTES TO FIGURES.

Figure 1 a : Build - up of pedestrian lanes where all people walk in the same direction. Lanes overlap with in the distance d , walked during the duration of the peak period t .

Figure 1 b : Build-up of pedestrian lanes where people walk in both directions. Except at the ends of a street, the width of the space available for pedestrians has to be the same as for the case where all walk in one direction only.

Figure 1 c : Stations of a "universal", i.e. omni-directional transport system, where people can go to the nearest station or stop to their work place, cut out overlap of lanes, and drastically improve the utilisation of available pedestrian space. The drawing shows a distance between stations equal to the distance d walked in the peak period. As long as the distance does not exceed twice the distance walked during the peak period, there is a gain in sidewalk utilisation. The total number of pedestrian lanes required will be reduced in proportion $\frac{D}{d}$, where, in this case,

- $D =$ half the distance between stations
- $d = v t =$ distance walked during the peak period
- $v =$ saturation speed for crowded pedestrians = 175 ft. per minute
- $t =$ duration of pedestrian peak

In the case shown on figure 1 c

$$D = \frac{d}{2}$$

$\frac{D}{d} = \frac{1}{2}$ a reduction by one half of lanes required to move a given number of pedestrians.

Figure 2 : Behaviour of pedestrians in a lane during a peak period at closing time, when people leave a block of offices. Most people, after leaving the building, have to walk a distance of 100 to 150 yards. Thereafter they begin to disperse into vehicles, public transport, other streets and buildings. A limited origin and destination survey in Auckland showed that after 450 yards, half the people had dispersed. The vacancies on the footpath thus created are available for other people coming out of buildings. After the end of the peak period, there is no addition to the crowd on the footpath, and the build-up ceases. The columns of pedestrians rapidly disperse.

The "topping up" of depleted lanes of pedestrians is subject to the same rules of gradual dispersal as the original column, but as it is superimposed on a pattern of continual dispersal, the decline of the pedestrian numbers becomes more and more lineal.

The graph also shows the rate of dispersal q , which is a measure of the effective capacity of a pedestrian lane (of 22 inches width) on a footpath. The graph shows that the importance of this dispersal factor increases with the length of the peak duration t , and that for short flows, it is relatively unimportant.

Nancy Northcroft

Four new town houses in Christchurch

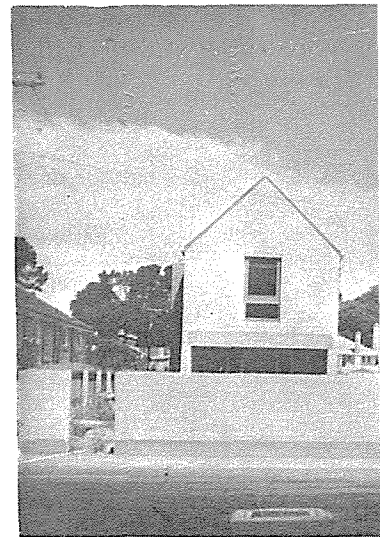
The section is situated just over a mile from Cathedral Square in an old part of the city. It lies just beyond the fringe residential areas around the central business district and its future is that of a medium density residential area. Many of the old houses, some large, some small, are already apartment houses of one kind or another, but the replacement of the old by new houses is only just beginning.

The section in question, before its redevelopment last year, had been originally a quarter acre lot, divided before the turn of this century into two sections. The four new two-bedroom town houses, each on 10 perches of land, therefore replace two old houses which were built on long, narrow-gutted sections each 165 ft. deep and 33 ft. wide.

One of the advantages of this new form of development is financial. Even at present, though the arrangement has to be one of tenants in common, finance is comparatively readily obtained. However, a minor change to the city's planning scheme is now being considered that would permit of separate titles being given to each of the 10 perch lots. The prerequisite for this would be that, in the first instance, building and subdivisional plans - in principle - would have to be submitted for approval, and legal subdivision and the issue of titles would only take place after the houses had been built in accordance with the earlier approved plan.

This provision already applies in the city's reviewed scheme to what is known as "Comprehensive Developments" and to apartment houses. The change now being considered would extend this sort of provision to indivi-

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dual houses developed in a less extensive way in suitable localities. If this were to occur it would facilitate still further arrangements for finance.

Another advantage is that of a variation in types of development for the old quarter acre lots while, at the same time, obtaining a real increase in density. And because each house stands alone, with its own separately contained garden, it may well have an attraction for many people over the more traditional blocks of flats. Questions of building maintenance and painting are possibly, also, a little less dependent on when and what the next-door neighbours do.

Factors For Each House

Floor Area

Without garage

Ground floor 500 sq. ft.
Total 1,000 sq. ft.

With garage

Ground floor 692 sq. ft.
Total 1,192 sq. ft.

Site Area

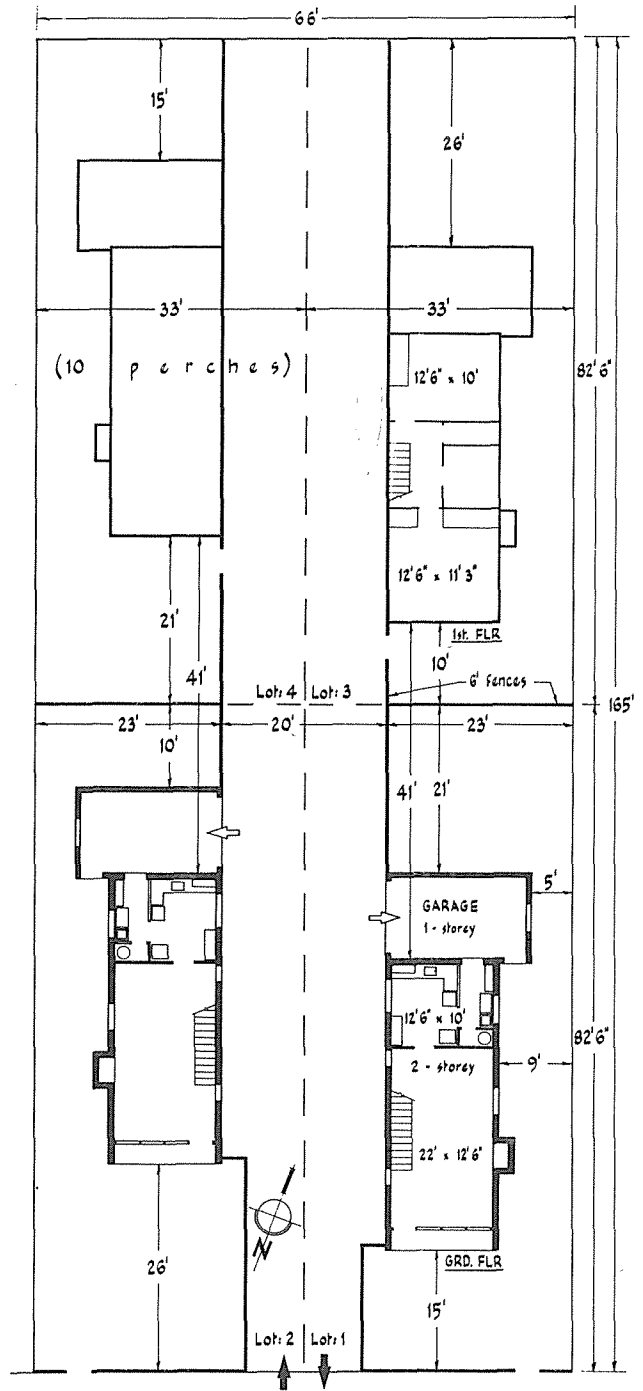
Legal lot (10 perches) 2, 722.5 sq. ft.
Physical section (within fences) 1,898.5 sq. ft.

Coverage

For legal lot 25.4 per cent
For physical section 36.4 " "

Density (2 double bedrooms/house)

Maximum (equivalent to) 64 persons/acre



Far left: East facade from common entrance drive of the house owned and occupied by the author.
Left: Street (north) front showing three of the four houses.

Limiting Utopia

Planners are committed by the New Zealand Town and Country Planning Act to "the conservation and economic development of (their region) and to "the development of (their district) . . . in such a way as will most effectively tend to promote and safeguard the health, safety, and convenience, and the economic and general welfare or its inhabitants, . . .". Both clauses, section 3 and section 18, are concerned with what is valued now, as well as with what may be so in the future. It is noteworthy that, so far as this Act goes, the planner is charged rather more specifically with custody of the present than with preparation for, or prediction of, the future.

Embedded in the meaning of the word "Plan" in most of its grammatical forms is the idea of action to mould future events and so, apart from the history of the development of the art, the common usage of language predisposes us to place an emphasis on the predictive aspects of planning. Perhaps thus, in spite of the wording of the Act, town planning has continued to be concerned very largely with the good life to come, the shaping of the future environment.

Although the design of cities "in toto" has correctly been relegated to being the pastime of frustrated architects, nevertheless it is still with us in the planning field disguised as comprehensive redevelopment. Instead of dealing with an entity such as a city, now it is fashionable to seize on a section of a metropolis, for all that it may contain many more inhabitants than the Seventeenth City which has become so passe as a planning exercise. It is alleged that, because such an area lacks major, CBD, port facilities, or something, it is some-

how a fundamentally more simple problem, a problem more amenable to satisfactory solution than a whole "city". Thus areas are surveyed, declared to be decadent, then razed, replanned and rebuilt.

The rationale supposed to support this course of action contains three crucial errors. The first of these, already noted by Lucifer in this journal, may be called the Pseudo-Immortality Syndrome. Comprehensive redevelopment is undertaken in the pious hope that the brand new complex has built into it Elixir Vitae quant. suff. and will not, in spite of being planned and built all of a piece, decline and decay all of a piece, presenting the ratepayers of the future with a repetition of the very problem which was allegedly solved by the exercise.

The other errors in the rationale are more serious in that they are more subtle and generally pervasive in planning attitudes, amongst others. In both ethics and aesthetics, i.e. the consideration of moral approval or disapproval, what we ought or ought not to do, and the study of preferring and valuing objects or experiences, there is still a popular belief in the immutability of certain standards, codes and canons; a belief that there is an unchanging core, the "eternal verities". Thus what we hold to be "best" or "most beautiful" now will always and must always be so, a warrant to impose present standards on future generations. In fact there are sound and devastating arguments against this particular thesis. An obvious counter though philosophically not the strongest, is that the facts of the case simply do not support this line of argument for clearly tastes in both morals and arts are as various as are societies and historical periods. Today's crime is tomorrow's peccadillo and the present cherished object becomes the quaint. We know, or we can come to know, what our standards are in these matters but the attitudes of the next decade, let alone next generation, are not to be predicted.

Finally there is what Sir Karl Popper has categorised as Utopian Social Engineering, the belief that the generalisations of the social sciences are of the same logical type as those of the physical sciences. The present differences are to be explained by the complexity of human beings as compared with inanimate matter, but once enough facts have been gathered the laws of social groups will be as deterministic as those of classical mechanics. That this is a foundation for a thorough-going totalitarianism has been made clear in Sir Karl's *The Open Society and Its Enemies*.

The passion for tinkering with the future should be further restrained if we admit that the physical environment is inevitably a form of constraint, thus the more we build for the future the more we restrict the unknown inhabitants to come. This is an unavoidable and unenviable moral responsibility which any type of planner bears and one to be taken seriously by those who would incline to Mill rather than to Marx.

An alternative set of attitudes and courses of action may be called Piecemeal Social Engineering, a programme which deals with the immediate and known ills and disorders rather than in prophecies of new ways of life and living. By dealing with present problems the field is cleared for future growth and by limiting the scope of the solutions attempted feedback is maximised. In a multivariable system the manipulation of individual variables in succession yields more unambiguous information about causal relationships than the outcome of a simultaneous interference with the whole system. The mistakes of the Piecemeal Social Engineer are not only less disastrous than those of his utopian counterpart but, because of the comparative simplicity of the problem situation, are more likely to be susceptible to analysis. Thus this approach can yield a steady accretion of relevant information coupled with a continuous general regeneration of the environment without the cataclysmic upheavals required by the utopians. The effects of the planning process are to be deployed in both time and space and so the forces of regeneration brought to bear on spots before they become areas.

Apart from the immediate practical advantages, Piecemeal Social Engineering offers an inherently open minded approach, for as a planning process it is capable of altering its aims and methods as those of the society it serves alter. This society is always of time now; real, immediate and complex, not some fleshless utopian blueprint of the future, a future which like so many statistical projections may never be. Unlike omelettes, societies are to be made without breaking eggs.

D.R. Hall

The Public and Administrative Law Reform Committee

In July 1966 the Minister of Justice set up the Public and Administrative Law Reform Committee. With one exception the committee consists of lawyers, although not all of the lawyers are in private practice. The whole exercise is largely the traditional lawyers' one of ensuring adequate judicial supervision of administrative tribunals, though also generally the smooth running of the administrative tribunal system.

The main initial concern of the committee was appeals from administrative tribunals, of which the Town and Country Planning Appeal Board is of course one, and the constitution and procedure of such tribunals. The Committee brought out its first report in January 1968 and its second in January 1969. Its recommendations have already had considerable impact with the passing last year of the Judicature Amendment Act setting up an Administrative Division of the Supreme Court and, as a process that is continuing and which will continue for some time, the transferring of the appellate jurisdiction of some tribunals and minor courts to it. One of the most notable of these steps so far taken is the abolition of the Land Valuation Court.

The second report did not take the matter much further but dealt mainly with a further group of administrative tribunals. As the Town and Country Planning Appeal Board was dealt with in the first report, we are only concerned here with that report. It is however interesting

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to note from the second report that the future programme of the committee is to be an examination of the procedures of administrative tribunals, and then a study of the adequacy of the prerogative writ procedures by which the Supreme Court exercises supervisory jurisdiction over decisions of administrative tribunals.

Criticism of existing system

“The main disadvantages are connected with the quality of the adjudication involved in such a system. The tribunals cannot always be comprised of persons especially well-equipped to adjudicate. In consequence the decision may be incorrect or equally important - the parties may not be satisfied with the hearing they have received. We have come to the conclusion that the two-fold aim we have mentioned can best be achieved by (i) providing the best possible rights of appeal, and (ii) making certain improvements as regards the personnel and procedure of administrative tribunals at first instance.”

Although the basis of most of the committee's recommendations, this criticism applies less to the Town and Country Planning Appeal Board than to many other administrative tribunals.

Criticisms cited in the report range from statements that the really important decisions affecting citizens should be made by the men best qualified by training and experience to make them, to statements that if anything is wrong, it is with the particular tribunals which make up the system, with the statutory provisions constituting these tribunals, and with the persons serving on tribunals (paras. 21 and 23).

Implementation to date.

Several recommendations of the report have been implemented and would therefore best be treated as *fait accompli*.

Included in the Judicature Amendment Act 1968 were provisions for:

(i) the establishment of an Administrative Division of the Supreme Court to hear appeals from certain administrative tribunals. The difference between the Administrative Division and the Supreme Court itself is that judges will be assigned to the former from the latter by the Chief Justice, on the basis of their knowledge, experience and aptitude for the sort of cases they will be dealing with, including an outlook that will enable them to apply economic and social legislation according to its objects. What experience they lack they will naturally acquire quicker through specialisation. In respect of this

procedure for appeals the committee said (para 31):

“We are satisfied that this step would offer the best assurance that the very important issues arising in such appeals are decided justly. It would be the best means of satisfying the public that each case receives a fair and thorough hearing and a carefully considered decision.”

Later (para 35) it said:

“The conferment of appellate jurisdiction on the Supreme Court . . . would inspire greater public confidence, by reason of the higher status of the appellate body.”

(ii) assessors to sit with the Administrative Division if so provided for in any legislation.

(iii) the Administrative Division to exercise the present jurisdiction of the Supreme Court in administrative law. The Chief Justice may refer certain applications or classes of applications for writs of certiorari, prohibition or mandamus, or for declaratory judgments or orders or injunctions to the Administrative Division for hearing.

Further implementation has taken the form of the transference of jurisdiction to the Administrative Division under various statutes as recommended by the committee but nothing has happened as far as the Town and Country Planning Appeal Board is concerned.

Recommendations in respect of town and country planning

Summarising the recommendations to date (no study has yet been made of procedures) :-

- (a) (i) Appeals, with leave, to the Administrative Division, from decisions of the board on fact, law and merits but normally no rehearing of evidence. The board would therefore have to record the evidence given (paras. 56 and 57).
- (ii) Further appeals to the Court of Appeal on question of law, which are however expected to be rare (para. 58).
- (b) (i) Board to be given power to order inspection of documents (para. 55).
- (ii) Tentatively, reconsideration of the composition of the Appeal Board in view of the apparent over-representation of local body interests (para. 53).
- (iii) Possibility of constituting Appeal Boards on a regional basis when the volume of work justifies a third board. One in the South Island and two in the North Island were suggested (para. 54).
- (c) From the comments on tribunals gen-

erally, to assist recruitment, more settled and attractive terms of appointment of board members (para. 32 e.g.)

- (d) There was an inference that the local body hearings should be investigated, but no recommendation was made except that preferably local bodies should disclose planning officers' reports (paras. 52 and 53).

Elaborating some of these points:

- (a) (i) Either the board or the Administrative Division should have power to grant leave to appeal, and in doing so should have regard to: (1) Whether any questions of law or general principles are involved (2) the importance of the issues to the parties (3) the amount of money in issue (4) such other matters as in the particular circumstances the court thinks fit. (paras. 48 and 56.)
- (a) (ii) This is specifically excluded under the Judicature Amendment Act but could be provided for in a particular enabling Act, which would be justified if it was thought town and country planning was a special case. Resort to this was expected to be rare partly because the Administrative Division could sit as a full court and appeals from a full court to the Court of Appeal are rare. (These comments apply to the new further rights of appeal, not to the hearing of administrative law cases by the Administrative Division where there is no change in the right of appeal to the Court of Appeal.)
- (b) (i) This issue is too technical to deal with here and will therefore, frankly, be side-stepped. The effects of the proposals should, however, be further looked into before being accepted.
- (d) The committee stated that it could not deal adequately with the question of hearings at the Appeal Board level without investigating the adequacy of hearings at the local body level, and made some criticisms of the latter hearings, but was only able to make the one recommendation mentioned (and this is now partly covered by *Denton and Ors. v. Auckland City Council 1969 NZLR 256*).

Basis of the committee's statements

Generally the committee appears to have

had a fair appreciation of the work and standing of the Town and Country Planning Appeal Board and in recommending only a limited right of appeal with leave recognised that the board is perhaps more akin to a minor court than to other administrative tribunals dealt with in the report. Although the particular findings may have been no different in the result, a much more detailed study of the multifarious activities and functions of the board and local bodies under the Town and Country Planning Act, of the unusual nature of planning law, and a study of the planning process, would have inspired greater confidence, and should certainly be carried out before any further reforms are proposed.

The committee has not considered fully enough the existing means by which town and country planning cases can be brought before the Supreme Court. For a start, the right of appeal to the Administrative Division will replace the prerogative writ of certiorari, but the adequacy of the prerogative writs is something still to be examined. If certiorari was found adequate there would be no need for a right of appeal. The committee has apparently assumed that this is unlikely. It would appear correct that there is no means of having reviewed a decision considered wrong on the facts alone. But as far as the justification of better development of the law is concerned, there are several ways in which planning cases come before the Supreme Court.

Although an Administrative Division is theoretically a better arrangement for dealing with specialised fields of law, an impression from the decisions of the Supreme Court in town planning cases is that the ordinary court is quite competent to deal with these cases.

The committee emphasised that, generally, appeals to the Administrative Division need not result in an increase in expense to parties (para. 36) but this obviously can only apply where such appeals replace some existing jurisdiction, and not where an additional level of jurisdiction is created.

The reasons for expecting appeals to the Court of Appeal on questions of law to be rare appear rather thin, unless the need for a full court in particular cases can be acutely anticipated. The Administrative Division must be going to operate differently from the ordinary Supreme Court for it can hardly be said that appeals from the Supreme Court to the Court of Appeal are rare because the former can sit as a full court.

Although the committee has clearly given some particular consideration to the Town and Country Planning Appeal Board, on the whole it appears to be more concerned with attaining some standardisation of procedure than the particular requirements of different tribunals.

Advantages of proposals

As noted earlier, the right to appeal would be limited by the necessity to obtain leave to do so, but if there would be cases coming before the Supreme Court which could not have done so before, parties, and the public, should get greater satisfaction in important cases and the proper development of planning law, with more certainty and consistency, should be aided.

Regional Appeal Boards should assist recruitment to boards by reducing the amount of travelling required, and will enable the boards to become more familiar with the areas they are dealing with. Obviously, the other proposals to raise the standard of the boards are desirable.

Disadvantages

An increase in the number of appeals going to the Supreme Court will result in increased expense for parties, therefore giving an advantage to the wealthier ones and putting an additional burden onto local authorities (as far as some of the latter are concerned, this may have the salutary effect of making them more careful about their decisions in the first place).

Recording of evidence will throw an additional burden on the Appeal Board (these are roughly the two points noted by Mr. J.W. Kealy S.M., chairman of the main board, in an article in TPQ 14 at p.11), in increased cost and slowing down of hearings for only a limited return. Rehearing of the expert evidence by the Administrative Division may ease this burden, but will lengthen the appeal hearing.

Further criticism of the report

(a) (i) (Referring to above-listed recommendations again): Insufficient attention was given to the unique nature of planning law cases wherein questions of fact comprise the "pure" facts plus the town and country planning content of the case. The pure facts are usually fairly straightforward, but the decision on the planning aspects is the real meat of the case (the legal aspects really only concern matters of planning procedure and the organisational and insitutional framework of planning). Hence, it is rather alarming to find the suggestion that

the only guidance the Administrative division get on these difficult technical matters be notes of evidence prepared by the Appeal Board. It would be most desirable for the court to hear the parties' *viva voce* (the practice of experts preparing written evidence could be retained at the higher level) and in addition, have assessors sitting with the court, or empower the court to call its own expert evidence. In one paper given at the recent NZ Law Conference (Mr. J.G. Leggat's) a general criticism of appeal courts using only notes of evidence made in the court below was made. One of the main reasons for the practice is no doubt to save time and expense on appeal. The question of burden of proof must also be looked at. Will the usual rule for appeals, that the appellant must show that the decision in the court below is wrong, be the best for these appeals?

(a) (ii) The committee has given some indication of what are question of law but has not decided whether or not a definition of questions of law should be included in any legislation (para.41). Until this has been done it is difficult to judge the desirability of having a further appeal to the Court of Appeal on questions of law. Prima facie though, it seems undesirable to separate out one part of a case in this way. For one thing, it is often not clear until the decision is given whether a question is one of law or fact (see, e.g. *Oakley & Ors. v. I. Clark & Son Ltd & Anor. 1967NZLR353* - "detrimental to the amenities" a question of fact not law) and this might lead to an undesirable over-legalisation of planning law concepts. For another, planning law is more likely to evolve along the right lines if it is interpreted as applied to particular facts rather than interpreted *in vacuo*.

(b) (ii) Any reconsideration of the composition of the board will have to take account of the interchangeability of members between the two boards. The objection to the representation of particular interests on administrative tribunals may be valid in theory generally, but in the absence of any evidence of actual bias in this particular case, it can only be assumed that this goes no further than this. Being nominated to a position by the NZ, Municipal or Counties Associations seems rather remote from the interests of a particular local body in a particular case. A more important question is whether this system is keeping better people off the board. With the difficulty of recruitment at present this does not seem very likely. If, fol-

lowing (b) (iii) and (c), the Justice Department is able to extend its recruitment beyond a narrow group of superannuitants, and the Appeal Board, in accordance with the basic rationale of administrative tribunals, can become truly a board of experts, one local government expert per board will be the most that could be justified.

Conclusion

The main recommendation of the committee is undoubtedly the proposed limited right of appeal from the Appeal Board to the Administrative Division of the Supreme Court. On the balance of advantages and disadvantages there seem to be no strong grounds for planners objecting to this lawyer's proposal. The proposals could be justified perhaps solely on the grounds that the Appeal Board has such a considerable amount of discretion that it must barely be legally acceptable and anything that increases the legal acceptability of the board, if not accompanied by any serious disadvantages cannot be cavilled at. The board is the key focal point in the fusion of law and planning in planning law. In our system it is the vehicle in compromising the rule of law and the flexibility - even randomization - desired, if not yet mastered, by the planner. Any strengthening of the position of the board, and therefore the system, is thus to be encouraged. This will be even more necessary if the present trend to ignore the plan under the conditional use and specific departure procedures continues to expand. The latter practice is taking our statutory planning further away from acting under general rules fixed and announced before hand towards relying on *ad hoc* decisions of councils and, on appeal, the Appeal Board.

A more intensive study of the Appeal Board's functions, and of the existing alternative ways by which planning cases come before the Supreme Court, especially the prerogative writs, would have been desirable. A further appeal on the facts in important cases is probably justified on the basis of the study so far, but the Administrative Division should hear the expert evidence for itself. An examination of the Town and Country Planning Act to ensure that the further right of appeal will be appropriate to every decision of the Appeal Board, should be made. Planning should benefit from the greater party and public satisfaction at decisions in important cases being given at Supreme Court level and from more certain development of the law, though the procedure

could not be justified on that ground alone. Recording of evidence will throw an additional burden on the resources of the Appeal Board. Unless there is no increase in the number of cases going to the Supreme Court, in which case the further right of appeal would have been unnecessary parties, and especially local bodies, will be involved in further expense. Leave to appeal would best be in the hands of the Appeal Board, with a right of appeal from the board's decision. Appeals would be to the Administrative Division not the Supreme Court as a whole. It would be best not to have a further appeal to the Court of Appeal.

The suggestion to reconsider the composition of the board should remain on record as a tentative proposal for the present. The proposal for three regional Appeal Boards could be started to be pursued. Improved conditions of appointment should be looked into.

There would be no harm in having a close look at council hearings, especially as their functions do not seem to be clearly understood. But not all Appeal Board hearings originate from a council hearing.

Altogether, there is a need for wider recognition that the Town and Country Planning Appeal Board is no ordinary administrative tribunal but one that has to deal with problems comprising complex intermixtures of questions of law and questions of planning - an ambivalence whose component principles are often in conflict. The committee would not claim to have done much toward solving this problem - only to have proposed an additional adjudicating body which they assume can be relied on to do a better job in important cases than the body specifically set up to do it.

Closure

It is not clear at whose feet the ball is at present, as regards introducing a right of appeal from the Town and Country Planning Appeal Board to the Administrative Division as outlined by the committee - probably the Ministry of Works as administrator of the Town and Country Planning Act. It is not clear whether it may be necessary for protagonists to fight a positive battle or for antagonists to fight a negative one, but something should be done.

An important committee has made considered recommendations and criticisms, which should not be allowed to lay at rest unless the consensus of informed opinion has agreed that that is what is best, either permanently, or until further studies have been made.

Problems of the transportation planning engineer

I read the article "System Constraints and Measures of Effectiveness in Urban Transportation Planning" by Mr. Robert Jones (TPQ14) with considerable interest but feel some of the views expressed ought not to pass without qualification.

Perhaps the most important aspect glossed over is the environment within which the transportation planning engineer himself operates since this largely conditions his attitude to problems. Essentially he lives in a monopolistic world, and must obtain approval of works and capital from a government deeply concerned with other works consuming national capital and labour and hard-pressed on all sides by equally-deserving causes. The end product of the town planner is a land-use map showing desired land-use characteristics at some future date coupled to a statutory planning strategy to achieve this end - he is not reliant on central government for sole implementation, he is not called upon to show that this is likely to be a very good and very economic solution, he is not even called upon to show that the solution can be implemented.

With the transportation planning engineer the end product is an appreciation of how the town planner's land-use pattern for the year 2000 (say) might be serviced, a comprehensive analysis of existing deficiencies in the transpor-

tation system and how these are likely to be aggravated by short-term development commitments and a suggested programme of investment over a limited number of years, on a scale realistic to contemplate, to remedy some of the deficiencies and to steer development towards the goals set by the land - use planner, using various cost/effectiveness parameters to help decision making. If at times the transportation planning engineer seems engrossed with physical parameters to the exclusion of the aesthetic it is because these tend to be quantifiable in monetary terms - even with environmental capacity it is far easier to quantify costs rather than assess benefits, unless these be reflected in increased site values.

Travel time is usually taken as the major measure of efficiency of a transportation system for three very good reasons:-

- (i) In general transportation users will select their route and mode on the basis of minimising personal travel time.
- (ii) Where the quickest system is not selected this is usually because people are willing to trade off increased travel time against personal cost savings.
- (iii) The impact on gross national product (GNP) of vehicle operating costs is directly related to journey speed and hence the cost of operating the system is closely related to total travel time.

Thus on an urban road subject to congestion there is a well defined relationship between speed and flow, broadly reducible to the form

$$V = A - BQ$$

where V is the operating speed in m.p.h.

Q is the flow on the road in vehicles per hour

A & B are constants.

Cost may be similarly related to vehicle speed, the cost speed equation being of the form

$$C = D + \frac{E}{V}$$

where C is the operating cost in cents per vehicle mile

V is the operating speed in miles per hour

D & E are constants.

The effect of addition "dQ" additional vehicles to a road "dL" miles long will be to increase overall travel time by the journey time of the extra vehicles and also by the extended journey time of the vehicles already using the road. This can be shown to be :

$$dt = \left(\frac{1}{V} + k \cdot \frac{BQ}{V^2} \right) dL \cdot dQ$$

where K is the mean passenger-car-unit rating of the additional vehicles and V, Q, B are as previously defined. Similarly, it can be shown that the increased operating costs are

$$d(OC) = (C + K \cdot \frac{BEQ}{V^2}) dL \cdot dQ$$

Thus overall travel time in the system where traffic uses the quickest route can be computed and equated to operating costs, while alternative solutions can be tested in terms of quality of service as perceived by the traveller and their complementary impacts on GNP. If alternative parameters are to be chosen it should be made very clear which parameters relate to quality of service to travellers and goods and which to the areas through which persons and goods travel in the execution of their journeys.

So far as travellers are concerned there are a number of environmental parameters which can be quantified but which, at the moment, it is difficult to express in monetary terms. Mr. Jones mentions "level of service" which related principally to the amount of speed reduction on roads due to congestion, but this is not easy to define mathematically, though easy to portray.

A better measure would appear to be the "G-parameter" suggested by Helly & Baker, where G is defined as :-

$$G = \frac{\sigma}{V}$$

In this equation, σ^2 is acceleration

$$\text{"noise"} = \frac{1}{T} \int \left(\frac{d_2 x}{dt^2} \right)^2 dt$$

$$\text{where } \frac{d_2 x}{dt^2}$$

is the vehicle acceleration.

and V is the mean traffic speed as before. The "G-parameter" is much more meaningful than flow, concentration etc, since a road operating at G = 0.05 represents comfortable driving (perhaps level of service C) whereas G = 0.15 represents very uncomfortable driving (level of service E or F). At the moment the difficulty is that we cannot predict acceleration noise with any accuracy, although it is possible to make site measurements with some precision. It would appear that one of the constraints which might conceivably be introduced in a transportation study is a limiting subjective value of the "G

parameter" rather than our present technique of setting capacity limits, as in "Roads in Urban Areas" or specific levels of service as in the "Highway Capacity Manual."

Quality of service

The quality of service as perceived by pedestrians is very difficult to define and, at the moment, it would be true to say that there is some doubt as to what extent travel time and delays are significant. In the CBD's of cities at peak period walking times are very important since they figure as substantial elements in the journey to work, competition with road traffic is at its worst and pedestrians are sometimes induced to take suicidal risks in order not to be late for work. But at other times of the day the same pedestrian using the same route will window-shop, stroll aimlessly and disregard the most generous of gaps before crossing the road; to constrain motor vehicles under these circumstances so that specific average delays to pedestrians crossing the road are induced, would be to utilise investment in road facilities most inefficiently. There is clearly much work to be done in this field and we look to Mr. Jones and his colleagues to supply, if not the answers themselves, some guidance as to how data might be interpreted.

The only point on which I differ profoundly from Mr. Jones is in his last paragraph where he states that "The ultimate goal in urban areas should be the development of mature areas of defined land-use served by a fully-developed and stable road hierarchy which is not subject to upgrading" - the detrimental effect on environmental areas being a red herring. In general the practical life of a building may exceed fifty years whereas any attempt to plan in outline more than thirty years ahead and in detail more than fifteen years ahead is fraught with hazard. Moreover, to implement as suggested would call for a very high level of public investment in roads mainly for the benefit of a community as yet unborn and to the detriment of other services whose immediate needs are great; almost certainly this policy would not be found acceptable to those elected representatives who are required to endorse the investment programme. The best one can hope to do is to make such dispositions that, when upgrading becomes necessary, it may be carried out cheaply, effectively and with the minimum erosion of environment and amenity - and these, I suggest, are no mean aims.

Reviews

Urban Geography, by James H. Johnson, Oxford Pergamon; 1967; pp. 188; \$3.

This is a book intended as a general introduction to urban geography for the non-academic, general reader audience. A definition which still includes a large number engaged in town planning and associated professions.

Urban geography as a subject has at least a hint of usefulness if applied to the problems of our cities. But urban geography like urban planning seems to mean all things to all men. James Johnson openly attempts to "produce some order out of a remarkably diverse and rapidly growing field of study" without entering into qualitative assessments of the work presented. While this is admirably objective it leaves the initiated reader with a sense of annoyance at the non-contribution and the uninitiated in a state of confusion not knowing how to distinguish the sheep from the geographic goats. The result is a pot-pourri of the more conventional aspects of those subjects that for one reason or another are included within the scope of urban geography. In this book the recipe is: factors in urban growth; urban society and urban form; demographic characteristics of urban populations; occupational characteristics of urban populations; the location, spacing and size of urban settlements; the city centre; residential suburbs; manufacturing areas in cities; and theories of urban structure.

Because this is a collection of other people's ideas this review is not the place to raise the merits of the ideas themselves but the way in which they have been presented.

Johnson's presentation makes urban geography seem a large amount of apparently unsupported (and sometimes out-dated) generalisation based on the construction of simplistic cause effect relationships seeking to account for observed patterns. It is the proof or disproof of these suppositions that is the contribution that urban geography can make. Almost anyone can make them but there is little evidence in this work that urban geographers have seriously tested even their own hypotheses.

It is unfortunate for urban geographers that this author in common with many other geographers, takes such a naive view of the planning process. Continued emphasis is placed on the need to predict in order to plan but there is little serious discussion of the ability of the geographer to make such predictions.

As a book which ranges widely, if superficially, over the study of urban geography it is a starting point for those who have had little contact with urban geography or geographers, but one that should not be taken too seriously. Its main advantage is that it is clearly written, and therefore easy to read. Because of this it is a more valuable introduction for the uninitiated than the large number of obscurantist "readers" in urban geography flowing from the presses in the United States.

-M.H.Pritchard

Readings in Urban Sociology, edited by R. E. Pahl; Oxford; Pergamon; 1968; pp. 333. \$4.75.

This book is one of a new series being published by the Pergamon Press; neat, pocket-sized, soft durable-covered and most attractive in general appearance with contents that are relevant, in varying degree, to the field of town and country planning.

Urban sociology is a subject that has enjoyed the increasing attention of writers and publishers over the past decade, with the North Americans traditionally to the fore

in the range, depth and relevance of their work. Dr Pahl, in his introductory essay, for example, notes six "essential companion volumes" to the present Readings, all of which are from the USA and the oldest of which first appeared as late as 1957.

That is not to say, however, that even the Americans in the field have so far produced a solid core of sociological thought about which town planners and others can bind their own concepts with confidence. But the whole world of the social sciences is still at that primitive level that the subject of (say) medicine had reached a mere century ago. The low relative level of knowledge is not so much to be bemoaned as to be recognised.

The major task ahead is to encourage the shedding of Pavlovian response to the tired catch-phrases so beloved of the politicians, the civic-designers and the fringe groups who confuse their own preferences and prejudices with those of all sections of the community.

Professor Gans, in particular, in his contribution: "Urbanism and Suburbanism as Ways of Life" marks a preliminary skirmish with the myths surrounding suburban living which has proved to be a forerunner to the major assaults that he has since mounted in the form of the hardbacks: *The Levittowners* and the more recent *People and Plans: Essays on Urban Problems and Solutions*. And Ruth Gla-



ss's "Urban Sociology in Great Britain" well-illustrates the stony path trodden by British value-judgments over the years, as well as her own objective and incisive mode of writing. Dr Pahl continues in the same vein with his "The Rural-Urban Continuum" and pulls yet more bricks away from that shaky edifice known as "environmental determinism" by concluding, amongst other things, that, "Any attempt to tie particular patterns of social relationships to specific geographical milieux is a singularly fruitless exercise."

This reviewer did not, however, find the remaining essays by Berger, Pfeil, Durant, Nakamura, Rex, Musil and Mayer, as stimulating. The preface, by the general editor, A.H. Richmond, states that, "A characteristic of the series is the inclusion in each volume of a number of articles translated into English from European and other sources" and this policy may well explain the apparent dilution of Pahl's more iconoclastic editorial attitude. But the time has yet to be when publishers will attempt a less broad approach in these fields. Perhaps Pergamon will be encouraged to set the trend. In the meantime, this book has sufficient of value to justify its existence to students of urban affairs and that plaintive tune that you hear is a requiem over the grave of the cheap paperback.

J.R. Dart.

THESES AND DISSERTATIONS

Continuing the listing in TPQ 15, the following work has been accepted by the Town Planning Department, University of Auckland, during 1968:

Dip TP

Dickson, R.A., Traffic on the Auckland Harbour Bridge related to Population and Vehicle Ownership.
Dodds, D.A.C., Local Government Control of Residential Development.
Dudding, I.H., The Regional Growth of Motor Vehicle Traffic in N.Z.
Francombe, D.M.L., Recreation Re-

serves and Open Spaces in the Borough of Mt. Roskill.

Grierson, R.M., The Neighbourhood Unit Theory.

Henderson, E.R., Residential Development Schemes: A Proposed Method of Land Subdivision.

Jones, M.E., The Significance of Different Land Uses as Generators of Service Traffic.

Macdonald, N.N., The Pedestrian Mall in the Central Areas.

Macfarlane, G.G., Zoning for High Rise Apartments.

McShane, R.O., Roading and Land Use.

Millar, D.D., The Role of the Town Planner in the Lands & Survey Dept.

O'Hagan, D.O., The Urban Expansion of Taupo.

Plawinski, V., Problems of Planning for Industry.

Robertson, W.A., The Use of Aerial Photography in Planning.

Stroud, R.G., Urban Renewal: Identification of Blighted Areas and a Strategy for Renewal.

Weir, M.P., A Critical Evaluation of the Aims and Methods of Planning for Industry in New Zealand.

Correspondence

Limits to self-criticism

Sir, The editorial comment in the March issue of Town Planning Quarterly concerning the fragmentation of decision-making in matters relating to land use guidance, control and development, is a point well made and one which is fundamental in the overall consideration of urban growth. However, it could be misinterpreted by some readers as an indirect criticism of the competence of professional

planners employed by the planning authorities responsible in this field and I feel constrained to draw attention to some of the limitations which are imposed on them as they wrestle with this problem.

For example, in the particular case discussed (Greenlane-Balmoral road proposal), the Auckland Regional Authority exercises a responsibility both as a planning and as a construction agency. In advising on its planning role, planners employed by the Authority did, in the early stages of planning for the route, have occasion to draw specific attention to those very matters about which the leader writer comments and I might add the matter has not been lost sight of. May I therefore suggest that editorial comment in a semi-professional journal be based on at least some research into the facts before committing material to print - perhaps a positive indication of support rather than an unkindly cut would have served a more useful purpose in this instance.

The "pointing of the bone" is a prerogative of the editor which I wholeheartedly support - at the same time he has a responsibility to ensure that his shots are truly aimed and do not leave readers with a suspicion, albeit vague, that basic planning work had not in fact been carried out by the planners responsible.

Self-criticism is important amongst professional groups and it provides a certain stimulus to the activities of a profession, but while it is an essential ingredient, it is unfortunate that all too often these days, one sees evidence of an over-emphasis on this attitude. Usually a little more "homework" with a discussion

between those concerned, will more often than not show that actions resulting from the planning decision criticised are not of the planners' making. So often, and particularly in the planning field, one can offer advice, but no matter how sound advice might be, it does not necessarily follow that those responsible for making the final decisions will adopt it - often there are other cogent factors outside the planners' control which influence final decisions on their part.

While the points made in the editorial may seem "elementary" in one sense, the job at the government level of binding together into a comprehensive whole, the multiplicity of factors governing land use, be it the control aspect or physical development and implementation procedures, is an unenviable task which is the planner's lot. Apart from the complexity of the land ownership question and ability to compensate, he must also recognise limitations which result from having to work within existing legislative authority - this he must be prepared to accept until improvements can be effected. In any event and particularly in the town planning field the "doing" part of the job is, as I already inferred, subject to political influence beyond the planner's control.

There is little need for me to expand on these points - they are well-known or should be well-known to all concerned in the planning process today - however one final observation before I depart from these shores. Planning and the relatively small group of professional planners in this country can make contributions which will benefit New Zealand and its future development in the coming years. If

this aim is to be realised, then the general public will, in my view, need to develop a greater degree of confidence in the professional ability and competence of its planners than appears to exist at present - I see this situation being difficult to achieve while planners continue this practice of damning themselves (and their work) in the eyes of the public through the medium of its one and only professional publication.

Dennis W. Simsion
(Auckland).

(The Editorial comment to which Mr Simsion refers was unambiguous in its reference to planning *authorities*. Nevertheless, Mr Simsion may be right in assuming that there are some readers who are likely to assume that it is planning staffs and not elected members who make the decisions. The ploy of Aunt Sally-raising is a technique more appropriate to a Stephen Potter publication than to this journal, however, and Mr Simsion makes no attempt to substantiate his serious charge of factual inaccuracy. - Ed.)

Pedestrian needs

Sir, Montgolfier's comment in TPQ 15 on the scant consideration given to pedestrian needs is worthy of endorsement. Indeed most planning schemes pay little or no attention to pedestrian circulation, save perhaps in a few suburban shopping centres such as Lynmall, Southmall or Pakuranga. Even then little or no effort is made at integration with overall pedestrian movements. The location of schools in relation to children's movements and due safety en route is very frequently completely ignored.

But it would seem that the writer is mostly preoccupied

with Auckland's central area. Therefore it is unfortunate that the justified criticism of the Auckland Harbour Board's downtown development proposals, in this respect, did not allow for some favourable comment to be made on the Auckland City Council's effort of converting Vulcan Lane into a pedestrian mall. This small beginning is at least a step in the right direction.

However, the main criticism comes from the unjustified attack upon the New Zealand planning legislation. The Town and Country Planning Act clearly makes it possible to pay serious attention to the need of pedestrians (see Second Schedule of the Act, item 5). The fact that planning authorities have not as yet seen fit to exploit this to advantage is certainly no reason to criticise the Act in this respect. In addition, the remarks on the zoning game are frequently encountered. But if there is no zoning game, what other (superior) game is going to replace it?

Finally, but perhaps it would have been more polite to say firstly, let me welcome Montgolfier as a controversial contributor, no matter how aoristically, for out of the seeds of controversy we may reap the thoughts of progress.

C. van Eck
(Auckland)

Anyone speak English?

Sir, Your March issue has, among others, a most thought-provoking article by W.N.Gorst. In it he mentions one of the principal difficulties facing planner, that of getting their message across.

It's an excellent idea to get together with people, civic leaders and so on, but planners start with one disadvantage - they don't speak English. Or at least not the English of the man in the street who is the potential "victim" of planning.

Take an unbiased look at something you've turned out for a council, say a map amendment. Look at the letter-number combination, and the wording of the phrases. Then take it home and try it on your wife, and watch the blank look. And she is one of the people for whom you are planning, although possibly a bit more genned up through living with you as a planner.

I've seen the same blank look among councillors who have to agree or disagree with what their planner puts out. If he does it skilfully, and doesn't explain the terms in simple language, he can get away with murder, as the average councillor is ignorant to a horrifying degree, and won't ask for clarification in case his ignorance is exposed.

So get rid of the jargon first. If a Z2 area means you can't build a house in it with roses round the door, say so. If an industrial P3-M means it's for an industry which stinks

say so. And in doing so you'll have taken your first and most important step to having your craft accepted by the mythical man in the street, who, after all, pays your salary.

C.J. McKay
(Whangarei)

Likely increase in vehicle ownership

Sir, If the compound increase of vehicle ownership per 1000 population is 3.21% per year, but for the last five years was 3.71% per year, as Mr. Dudding stated in TPQ 15, then the curve on page 13 of his paper should show a steepening gradient, not a flattening gradient as he presents.

Since the curve flattens out at saturation, and since, no doubt, saturation comes gradually, the curve as a whole should take the form of an S. But nothing in the paper suggests what course the rate of increase is likely to take, except that at the moment the rate is still increasing. Without this information, the relationship between vertical and horizontal coordinates, i.e. between the rate of vehicle ownership and the date when that rate comes about, remains uncertain, and the diagram loses its point.

Gerhard Rosenberg
(Auckland)

Mr Dudding replies :

In the original paper I stressed that, because of the irregular behaviour of the New Zealand economy, a fairly lengthy period was required to ensure a true picture of the vehicular growth rate. It was for this reason that the average percentage was taken over 10 years, and not over the shorter period of 5 years, even though this gave a higher increase rate.

If the yearly compound increase rates are examined for the 10 year period 1956 - 1966 one sees that the yearly percentage has varied from as low as 1.41% to as high as 5.04%. Briefly, the pattern of growth rates commenced with a high increase rate of 5.04 percent from 1956-57, dropped to a very low level from 1958 to 1961, then increased to a generally high rate from 1963 to 1965, but had started to drop again in 1966. This pattern directly reflects the rises and falls in the nations economy, and with the recent tight restrictions on money during 1967 - 68 it may be expected that a further low rate of increase will have been registered during these years.

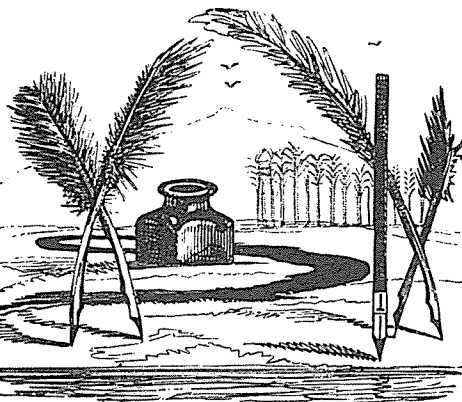
Based on those figures, I think there is little real evidence that the general rate of increase is showing a steepening gradient, as Mr. Rosenberg suggests. However, the fixing of the percentage rate of increase is admittedly a bit of a stab in the dark, and it is relevant to look at how much difference any inaccuracies will make to the forecasts.

This can be tested by applying the logistic curve to the highest percentage rate registered in recent years. This was 4.91 percent from 1964 to 1965. Using this increase rate a total of 503 motor vehicles per 1000 persons is reached in 1976, instead of in 1981. Over a 20 year period this gap has widened further, and we now reach a figure that had been forecast for 30 years ahead. But eventually of course the same saturation level will be reached.

Appeal Board Chairmen :

Sir, A letter under this heading was published in TPQ15. We, the undersigned, wish to dissociate ourselves entirely from the letter, of which we knew nothing until we saw it in the March issue.

R.M. Critchley, Nancy Northcroft, W.T. Williams (Christchurch).



Institute affairs

REPORT OF COUNCIL

The president, Miss Nancy Northcroft, will present the council's report for 1968-69 to the annual general meeting to be held at Auckland. The following items of general interest are noted:

Membership

Total membership as at April, 1969 was 153, a net increase of 16 over the previous year. It is expected that a full list of members will be included in the Institute's proposed Year Book.

Relationship with the British Town Planning Institute

One of the most urgent tasks that faced the council this year has been the need to determine a new relationship with the British Town Planning Institute. It now seems likely that an alliance agreement, on similar lines to that already existing between the Australian and the British Institutes, will replace the present arrangement.

Two past-presidents of the Institute, A.L. Gabites and I.G. Dunn, will shortly be in London and they have been authorised by the Council to negotiate the details of the alliance on the institute's behalf, although the terms of the proposed alliance will, of course, be subject to final ratification by the respective institutes.

Technician training

During the year, the Technicians' Certification Authority informed the council that it intended to discontinue the town planning option in the Draughting Certificate course examinations. At the same time, the council has been approa-

ched by the Institute of Local Authority Administrators regarding the possibility of providing training in town planning for those members of that body engaged in related local government activities. The council has, however, decided to take no action on this matter in the meantime.

Closer Association with Australian Institute

There has been an exchange of correspondence between the two presidents on this issue, but the council has decided that any further discussions should await the outcome of the current negotiations with the British Institute.

Institute Award

The Institute Prize for 1968 was awarded to A.L. Withy, for the progress that he made during his attendance as a full-time student at the University of Auckland's course leading to the Diploma in Town Planning.

1970 conference

It has been confirmed that the conference, next year, will be held at Wanganui.

COUNCIL ELECTION

The following officers have been elected, unopposed for the period 1969 - 70:

President: P.W.T. Bagnall
Vice-President: J.A. Beard
Hon. Secretary: R.G. Stroud
Hon. Treasurer: D.J. Edmondson
M.M. Latham has been returned as a councillor, being the only nomination from the South Island. There are seven candidates for the remaining four council vacancies and the latter will be, therefore, the subject of election.

RECENT MOVEMENTS

B. Duder, MA (Vict), Cert TP (London), Dip TP, from Auckland City Council to Senior Planning Officer, Dunedin City Council.

C.H. Van Eck, (S) from Waitemata County to Planning Officer, Manukau City Council.

MEMBERSHIP

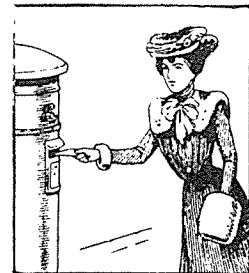
The following have been elected to membership:

K.G. Enright, BA (Otago), Dip TP
O.A. Evans, Dip TP, MNZIS
Foo Ah Fong, Dip Arch (Sing), Dip TP
R.M. Grierson, OBE, ED, Dip TP, C Eng, FNZIS, MNZIE, MICE, MIS Aust, R.S. Fiji
E.R. Henderson, Dip Urb Val, Dip TP
M.E. Jones, B Sc (Bristol), Dip TP
N.N. MacDonald, Dip Arch, Dip TP
W.A. Robertson, Dip TP, MNZIS
M.A. Taylor, MA (Hons) (NZ), Ph D (London) AMTPI
W.T. Williams, Dip TP (Hons) MNZIS

New student members

P.C. Bolster, BSc (Auck)
G.L. Dickson, MNZIE, AMICE
D.D. Cockburn
T.A. Gee, MNZIS
R.G. McQuoid, Dip TP, MNZIS
F.J. Neil, BA (Auck)
G.N. Prattley BA (Cant)
A. Sarniak - Thomson, MNZIS
M.R. Wearne, BA (Vict)

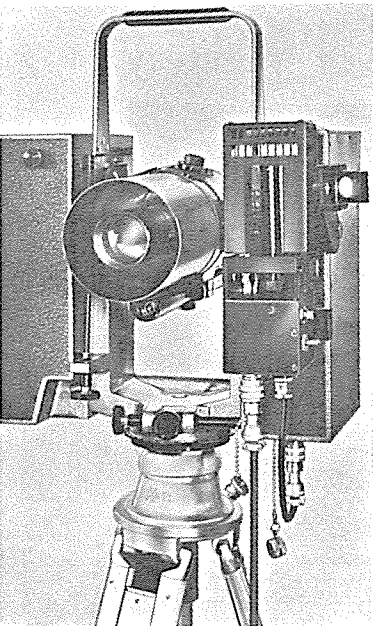
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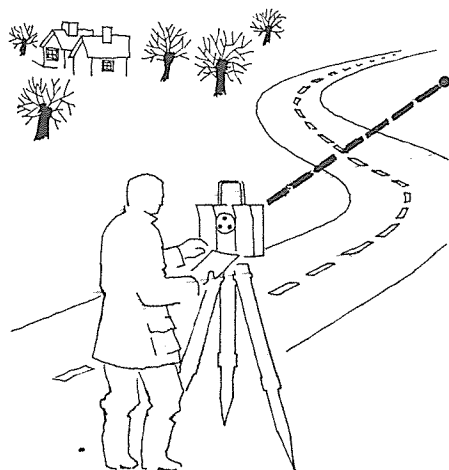
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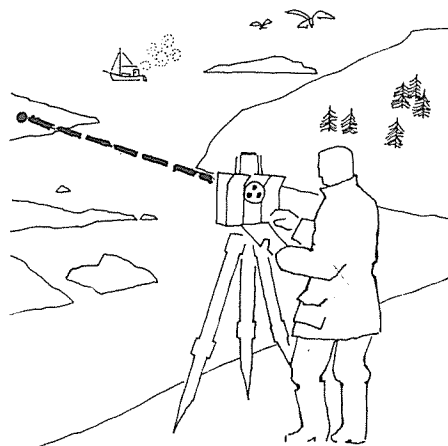


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Standard lamp	2-5 km	15 km		Mercury lamp: 300 W, 12 and 50 V from generator
Mercury lamp	5-10 km	25 km		
Accuracy	10 mm + 2 mm/km (mean error)		Basic field outfit	MEASURING STATION: Instrument with case Tripod. Battery or generator.
Measuring time	5 to 10 minutes per line			REFLECTOR STATION: Reflectors, Tripods.
Elevation	-55° to +90°			
Weight	Instrument w. case	26 kg		
	Tripod	7 kg		
	Battery	3-10 kg		
	Mercury lamp kit incl. generator	20 kg		
	1-prism reflector	0.5 kg		
	3-prism reflector	1.1 kg		

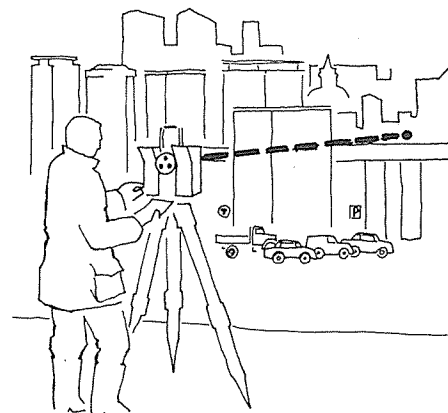


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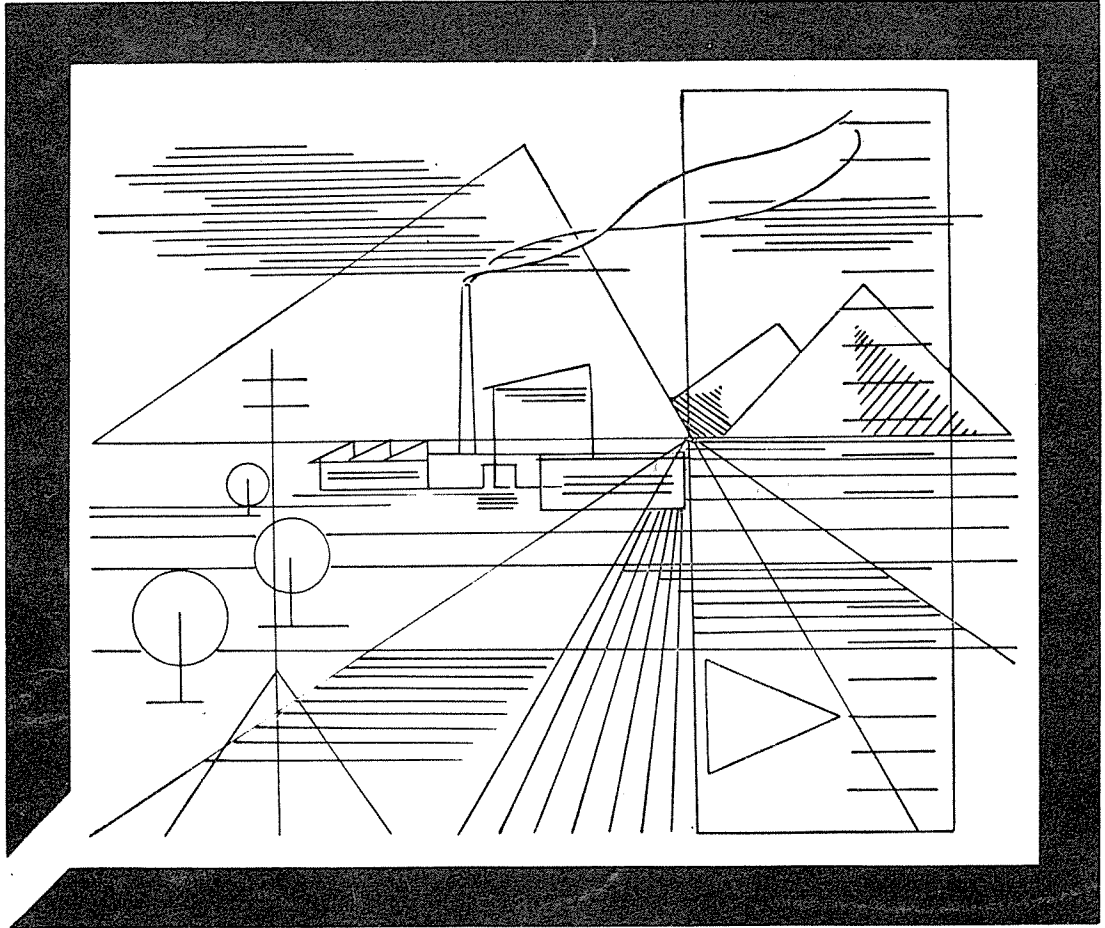
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