

SPACE-SAVING DESIGN

THIS is the second of four articles by JOHN G. SOWERBY, A.R.I.B.A., A.I.L.A., one of the prize-winners in the recent competition, sponsored by the Government, for the design of a three-bedroom home.

IN low cost housing an economical internal arrangement is essential. Floor space must not be wasted and the accommodation required must be confined to the smallest possible area.

Before considering how we can achieve this, let us glance at by-law requirements which affect the problem. All permanent dwellings must include a living room, kitchen, bathroom and w.c., and either one double or two single bedrooms. The living room must have an area of at least 150 square feet. Single bedrooms must have a minimum floor area of 63 square feet, and double bedrooms 100 square feet. The w.c. must not be entered directly from the kitchen, living room or (with certain minor exceptions) any of the bedrooms, and must have a minimum width of 2 feet 6 inches and a floor area of not less than 12 square feet.

Most three-bedroom houses erected in New Zealand since the war have a floor area of slightly over 1000 square feet, but for low cost housing this must be regarded as extravagant. Prize-winning designs in the Government Housing Competition had floor areas of between 900 square feet (the minimum permitted under the rules of the competition) and about 925 square feet. This reduction in floor area of about 100 square feet, with a financial saving of about £200, was probably the most important single cost reduction factor in the designs. Economies in floor area are essential before any really worthwhile saving can be made, and methods of producing such economies will now be discussed. It must be emphasised, however, that reduction in area must not be achieved at the expense of usable living space.

IN houses of traditional design, a considerable area is wasted by circulation or passage space. This wastage can be reduced by omitting the normal hall, and opening the front entrance into the living room. This saves about 12 feet of internal partition, and results in the living room being about 30 square feet larger in area without any increase in the overall size of the house. There is some prejudice against this arrangement in New Zealand, even though it is standard practice in the United States, where the climate is in general more extreme than here. Draughts can be prevented in several ways, one of which is to form a small lobby with a coat cupboard and curtain, as shown on the plan printed last week. The use of a slow combustion stove, which is cheaper to install and a more efficient heating appliance than an open fire, is an additional safeguard.

The direct front entrance does not necessarily increase traffic through the living room, as in most households the family normally use the rear entrance, leaving the front entrance for guests who would in any case enter the room.

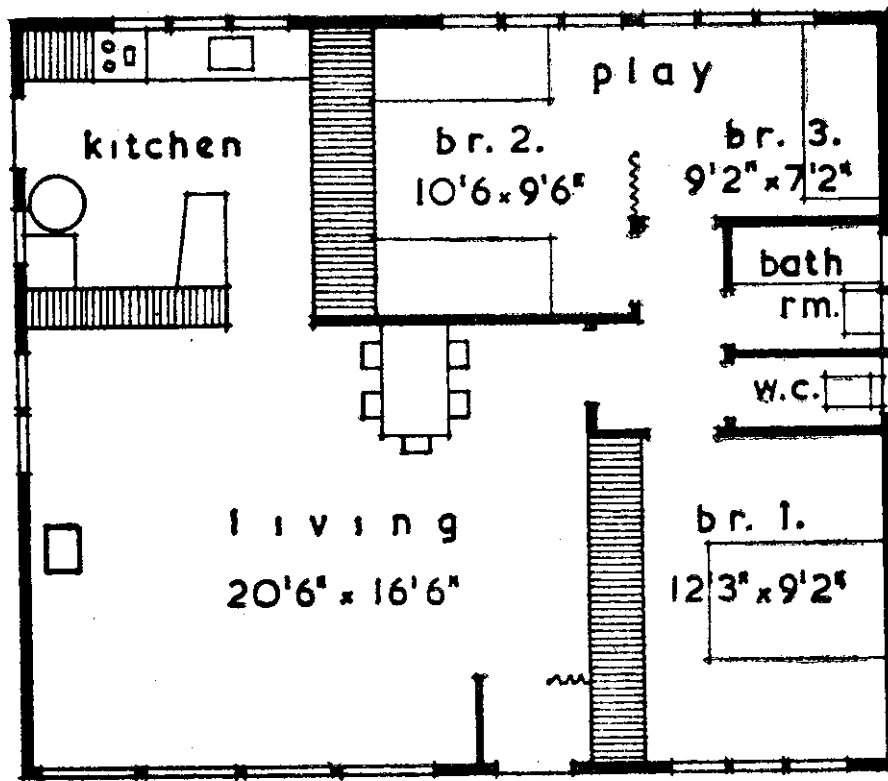
With this arrangement, care should be taken to prevent circulation diagonally across the living room, and therefore all doors should be confined to one end of it. If this is not done, the usable area is reduced and furniture arrangement may be difficult.

An alternative arrangement is to open the front entrance into the dining space, as was done in the design awarded first prize in the Competition (not as erected in Wanganui, where a much inferior design was used). This gives seclusion to the living room at the expense of the dining space, and it is a matter of personal preference which arrangement is adopted.

ECONOMY in both floor area and cost can be achieved by the adoption of a modern "open plan." This, as its name suggests, is an arrangement in which the whole area of the house is kept as open as possible. In extreme cases, walls and doors in the normal sense disappear, and are replaced by door-height screens and curtains, except, of course, to the bathroom and w.c. Thus the whole area, including the bedrooms, becomes one large space with screens as divisions. These screens may not even be fixed, but may be movable to give more flexible use of space. The kitchen may actually be part of the living space, completely un-screened, but in most cases a double-sided dresser or some other fitting gives visual separation. This type of planning in its extreme form would not be acceptable to the average housewife, and it is perhaps unnecessary to discuss its many disadvantages.

For more conventional families, a considerable saving can still be made by a more conservative interpretation of the expression "open plan." The living and dining rooms are frequently combined today, and it is economical and satisfactory to add the kitchen to this combination. Some form of division is always desirable between the dining space and kitchen; whether this is a curtain, a low screen, a double-sided dresser, a built-in sideboard, or open shelving, will depend on individual preference. In small houses this combination gives a much greater impression of space, particularly if screens are door-height only, and floor to ceiling windows are used in part of the room. Circulation space is saved, better use is made of floor area, and the number of internal walls is considerably reduced. This arrangement has been popular in the United States for several years, and is now almost standard practice for new housing of all types.

Circulation space can always be saved by entering one or more bedrooms



directly from the living or dining space, as obviously the smaller the number of rooms to be connected by this passage space, the less its area will be. Full-height partitions and doors will replace the screens and curtains referred to above. As previously mentioned, however, doors must be carefully arranged to prevent the living area being broken up by circulation paths diagonally across it.

A further possibility of economising in, or making better use of, floor area is by "dual use of space," but the present tendency is for this to be somewhat over-rated. In some designs an attempt is made to achieve dual use of space merely by dual designation of various rooms, one of the most common being to describe a minimum-sized bedroom as "bedroom and playroom." Obviously this achieves nothing new.

ONE satisfactory dual use of space concerns the laundry. The judges of the Housing Competition comment in their report: "One factor realised by a number of competitors was the elimination of the traditional New Zealand laundry and the incorporation of facilities for washing clothing either in a portion of the kitchen, in the bathroom, or as part of the rear entrance porch. As a matter of interest almost all competitors eliminated coppers in favour of washing machines." All these alternatives save floor space and often produce a more economical plumbing layout, and it is a matter of personal preference which arrangement is made. If the washing machine is located in the bathroom, convenient access to the clothes drier should be provided.

In the Hammond house, and several other designs, the wall between the passage space and one of the children's bedrooms is omitted, so as to incorporate the passage space into the bedroom. During daytime the whole area is available as children's play space, and at

night a curtain gives some degree of seclusion to the bedroom. This arrangement is claimed to be dual use of space. Unfortunately, because of the by-law previously mentioned, the w.c. cannot be entered directly from the passage space, as this now forms part of the bedroom. The w.c. is therefore placed in a separate compartment, but entered from inside the bathroom. This is only very slightly better than a combined bathroom and w.c., and is a disadvantage which negates any advantage the omission of the bedroom wall may possess. A further disadvantage is that it is necessary to pass through the children's bedroom before reaching the other bedrooms or the bathroom and w.c.

A better way of providing children's play space is to arrange two bedrooms adjacent to one another and omit the dividing wall. This is replaced by a curtain which is drawn back during the day to combine the two bedrooms into one fairly large space. When the children grow older, the curtain is replaced by a wall. Another possibility is to increase the width of passage space to about 8 feet or so, and use this as children's play space. This increases the overall size of the house, but almost eliminates wasted circulation space.

The plan in this week's article has been prepared to illustrate some of the points referred to above. It is a three-bedroom house with a floor area of just over 900 square feet, contained within a simple rectangle measuring 32 feet 6 inches by 28 feet. In spite of the small overall floor area, all normal accommodation is included, and the living room has a floor area of no less than 338 square feet. Two of the bedrooms can be combined to form a play space as mentioned above, and this can be kept under observation from the kitchen by providing a glazed panel in the wall between the kitchen and bedroom 2. The kitchen contains all normal equipment, together with the washing machine and one tub.