

Old age - Housing and care



STATE OF

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AVERELL HARRIMAN

Governor

**HOUSING REQUIREMENTS OF THE AGED:  
A STUDY OF DESIGN CRITERIA**

UNDERTAKEN FOR

**NEW YORK (STATE) DIVISION OF HOUSING**

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## PREFACE

It has not been the purpose of this study to do "original" research on the subject of the housing requirements of the aged, but rather, its primary purpose has been to search existing literature and the results of research that has been done to date, screen this material, draw out what seem to be sound conclusions and practices and, finally, report the findings in a single, compact document.

Section I of this report summarizes the various economic, sociological, psychological and physiological needs of the aged and indicates how these basic needs affect design and planning requirements. Section II focusses in detail on the various design and planning requirements and standards. The attempt has also been made to include pertinent background material whenever possible, in order to provide a frame of reference for the particular requirements or standards in question. While the focus of the discussion of design and planning requirements is on apartments and "projects", which was necessary in a limited study such as this, nevertheless, most of the basic principles are equally applicable to all types of housing. Section III outlines the significant conclusions which have stemmed from this study.

This study was made under a contract with the New York State Division of Housing from special legislative funds for studies on the aging. Richard W. Hill, Jr., Director, Bureau of Research and Statistics of the Division, was the liaison officer. Primary responsibility for

this study and preparation of the report was undertaken by Alexander Kira, Assistant Director of the Housing Research Center. George Tucker, a Graduate Assistant, performed much of the background work needed for this study. The classified annotated bibliography presented in the Appendix was prepared by Graduate Assistant Carl Cederstrom, as part of a complementary longer term study on the social and economic aspects of housing for the aged under way at Cornell University under the direction of Professor Glenn H. Beyer. Professor Beyer, who made the arrangements for this study, is Director of the Housing Research Center.



# I

## NEEDS OF THE AGED

No discussion of design or planning standards or criteria is particularly meaningful if there is no indication given of the basic needs which prompted the standard in question. Nor are the results which can be expected from such a blind application of "standards" apt to be particularly enlightened or imaginative. Because of the somewhat peculiar nature of design "standards", the matter of context and understanding becomes quite crucial. These "standards" are not standards in the usual sense, for they cannot be measured and evaluated qualitatively with any degree of precision. Indeed, the term may well be misused. Nevertheless, the fact remains that many of these standards or guides are subject to varying interpretations since they can only be applied through the exercise of personal judgment. Because of this, a thorough understanding of the reasoning behind the standards must be had by the designer if he is to translate these into reality in an intelligent and sympathetic way. He should, in short, have a grasp of the objectives involved.

A universal understanding of the objectives involved is also, of course, important to the progress which can be made in improving the realization of these objectives. It is only when the architects and designers thoroughly understand the nature of the problem that they can begin to think in terms of fresh approaches and new and better solutions. It would be well, in fact, if all existing standards relating to specifics could be replaced by statements of objectives, or "performance specifications". The aim should be to define problems, not specify solutions.

It is on the basis of these convictions that the following discussion of the economic, sociological, psychological and physiological aspects of aging is presented.

A. ECONOMIC ASPECTS AND GOVERNMENT PROGRAMS

One of the most basic problems facing the nation's aged population is its generally poor economic position. In dealing with the aged, one is dealing with a segment of the population which has largely retired from active occupation. It is obvious, therefore, that the cash income of this group is likely to be both sharply curtailed and fixed - limited largely to social security, pensions, old age assistance, insurance annuities, etc. The total income derived from these sources is generally quite small. In 1954, for example, the median income for families with a head 65 years of age or older, was under \$2300 a year. Approximately one third had incomes below \$1500. For elderly single persons living alone, the median income was under \$800 a year. It is obvious that such income levels place a severe limitation on the quality of the housing accommodations of the aged.

There are several aspects to this problem; one largely concerns those aged persons who own their own homes and, the other, those who rent or who do not maintain their own households. In 1950 more than two thirds of the families with a head 65 years of age or older, lived in their own households and the majority lived in houses which were too large for their needs. Census statistics show, for example, that more than 4 out of every 5 households in this group lived in dwellings in which there were less than 0.75 persons per room.<sup>1</sup> This represents a significant underconsumption of housing by normal standards. It is obvious that this situation stems from the fact that these families do not move into smaller living quarters as the size of their family shrinks. In addition, most of these aged families (the two thirds living in their own households) own the home in

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1. Ashley, E. Everett, III. "Housing for the Elderly," Construction Review, v. 4, No. 3, March, 1958, p. 5.

which they live and, quite contrary to the pattern for younger families, this home is usually mortgage free. The rate of home ownership for persons 65 years of age or older is appreciably higher than for the population as a whole. In 1950, for example, 67 percent of the aged owned their own homes and 33 percent rented, contrasted with 53 percent and 47 percent respectively for the population as a whole.<sup>2</sup>

However, while many of these aged persons own a mortgage-free home, this home, as has been pointed out, is generally too large for their needs. Frequently these houses are also old and in need of repairs. Many are also both difficult and expensive to maintain. As a result, the market is not especially good for these homes. In other instances, even if a buyer is found, the market value will have deteriorated to the point where the aged person cannot realize enough to purchase something more nearly suited to his needs.

In the case of those aged persons who rent or who do not maintain their own households, the problem is largely one of finding housing accommodations which are suited to their needs, both physically and economically. It is obvious that, in terms of shelter, a low income inevitably means a low quality of accommodation. The general unavailability of suitable housing has resulted in many of these persons having to live with relatives or in institutions. In 1950 approximately 25 percent of the aged who did not maintain their own households lived either with relatives or with non-relatives, and another 6 percent lived in quasi-households, including institutions.

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2. A complete report of the special statistics developed from the 1950 U.S. Census of Housing, concerning persons over 65 years of age, is included in "Housing for the Aged," Staff Report to the Sub-Committee on Housing, Committee on Banking and Currency, U.S. Senate, January 4, 1956.

The past several years have witnessed the initiation of a variety of government programs at both the state and federal levels aimed at solving some of these problems. At the federal level, a variety of provisions were incorporated in the Housing Act of 1956. These might be grouped into three categories:

1. Aids to facilitate the purchase of housing by older persons.

These provisions permit friends, relatives or corporations to make the down payment on an FHA-insured mortgage, and in addition, make it possible for a third party to become a co-signer of the mortgage. Loans can be insured up to \$20,000 for a term as long as thirty years. The interest rate is 5-1/4 percent plus 1/2 percent mortgage insurance premium. Because banks and other lenders tend to be wary of financing mortgages for the elderly, the President has also authorized the Federal National Mortgage Association to set aside \$20 million of special assistance funds to purchase mortgages on housing for the aged, insured by the FHA under the 1956 Housing Act. This has provided the necessary assurance to the banks that they can market these mortgages once they have been acquired.

2. Aids to facilitate the financing of rental projects designed specifically for the elderly. When a non-profit organization offers to sponsor a rental housing project of eight or more units which have been specially designed for the use and occupancy of aged persons, a maximum mortgage of \$8100 per dwelling unit (or \$8400 for elevator buildings) is eligible for FHA mortgage insurance. The mortgage up to 90 percent of replacement cost can draw 4-1/2 percent interest plus the 1/2 percent mortgage insurance premium. The term can extend to 40 years.

3. Amendments to make public low-rent housing available to this age group. Under this provision of the Housing Act of 1956, single elderly persons with low incomes were permitted for the first time to occupy low-



rent public housing projects. Authority was also given the U.S. Public Housing Administration to assist local housing authorities in the provision of new, or the remodeling of existing, low-rent public housing projects to provide specifically designed accommodations for older people. Local housing authorities were also authorized to give first preference to the admission of the elderly to any available low-rent public housing units which were suitable to their needs.

In addition to these programs at the federal level, various states have instituted a variety of programs of their own. New York State has been outstanding in this regard in its efforts to provide specially designed units for the aged in its low-income and middle-income housing projects. In 1952, 5 percent of the dwelling units in all state-financed low-rent housing projects were to be specially designed and set aside for occupancy by elderly persons. This requirement has recently been increased to 10 percent.

It is apparent from this brief review that while the major provisions of these various government programs have been keyed primarily to economic problems, some attempts are also being made at the direct provision of suitable accommodations for the nation's aged population.

#### B. SOCIOLOGICAL AND PSYCHOLOGICAL ASPECTS

Although, as in most situations related to housing, there is little empirical data available describing the sociological and psychological factors which must be considered, it is becoming increasingly apparent that these areas deserve primary attention along with the economic and the physical aspects.

In many respects these sociological and psychological aspects are related to the various economic and physical aspects in what might be consid-

ered a cause-effect relationship. As has been indicated, many of the nation's aged are in a relatively poor financial position. Their incomes are small and often fixed. Most have no opportunity to improve their circumstances because for various reasons they can no longer work. While these problems are in themselves serious, the psychological problems which they often induce are even more serious from an overall point of view. The permanent loss of occupation, for example, all too often entails the loss of all purpose in life. The attendant loss of income also results in a gradual curtailment of lifelong living habits. The little pleasures as well as the big must give way to provide for the necessities of life. In time, even these must often undergo transformation. In a number of instances this necessitates moving to less expensive housing, which because of the lack of small apartments and houses suitable to their needs, physically and financially, often means living in a furnished room or a walk-up cold-water flat. In many cases such a move also involves leaving behind the psychological security of a familiar neighborhood.<sup>1</sup> All too often such dwellings also prove so difficult and hazardous for the elderly person that they increase the physical problems as well. In turn, this can lead to loss of mobility and loss of independence. It is not difficult to see, therefore, how a sharply curtailed income can cause many an aged person to feel a great sense of frustration, loneliness and insecurity.

Changes in the social structure over the past several decades have also brought about a number of sociological and psychological problems with which the aged must cope. The most significant of these changes is the rapid disappearance in this country of the three-generation family unit.

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1. Burgess, E.W. "Communal Arrangements for Older Citizens," Housing The Aged, Donahue, Wilma (ed.), Ann Arbor: University of Michigan Press, 1954.

There are many reasons for this: the rapid urbanization of society, increased social and spatial mobility, changing concepts of parent-child relationships, and the generally decreasing size of new dwelling units. Under the earlier agrarian economy, older members of the family played an important role in both a social and an economic sense. There were numerous opportunities for an aged person to keep himself occupied and to be useful to the family at the same time. Accordingly, they had a secure place in the scheme of things and were provided for. Today, children tend to disperse and leave the basic family unit. The result is that the parents must provide for themselves. (In 1950, only one out of every five elderly persons were living with relatives.) That such a high proportion of the aged can live independently is in large measure due to the increased financial independence, modest though it may be, which has been made possible by the various retirement and pension plans and the social security programs.

Even in those situations where children are willing to take in aged parents, there is generally little room for them - physically or psychologically. Most new housing today has shrunk to the point where there simply is not the room to accommodate anyone outside of the immediate family unit, often not even that. The once familiar guest room has all but disappeared from the American scene except in the case of obviously "lavish" houses. Many parents are, of course, taken in by their children, although in most instances, this is hardly a satisfactory solution from either party's point of view, particularly since, in our highly competitive urban-industrial economy, the head-of-the-household role now belongs to the breadwinner. The change in the economic and social roles generally results in the aged and retired parent finding him- or herself superfluous, non-

contributing and a burden on the young family. Such a situation can hardly be expected to inspire feelings of self-respect and independence in an elderly person.<sup>2</sup>

Declining physical strength and failing health also leave their mark on an elderly person's mental outlook, particularly when coupled with some of the considerations just discussed. Many old people are so aware of their infirmities that they live in almost constant dread of accidents. In addition, the gradual loss of friends, and particularly the loss of the spouse, increases the sense of despair and loneliness.

When consideration is given to these psychological problems in terms of housing, it is not difficult to see why the aged generally resist leaving behind them old neighborhoods which are rich in associations and memories, why "bulky ugly old furniture" remains treasured possessions, and why they might crave quiet and privacy.

It should be pointed out, of course, that not all of the nation's aged persons are emotionally disturbed. Many elderly people have adjusted themselves completely to the various changes in their personal and social roles which accompany retirement and old age. They have done this largely by being able to assert their independence as individuals capable of fending for themselves. The key, however, to such self-sufficiency and independence, particularly to continuing independence, is largely to be found in the provision of proper housing in a proper environment which permits them, despite their increasing infirmities, to manage their own daily activities. It lies also in the provision of supplementary services such as laundering or meal preparation as these gradually may become

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2. Burgess, E. W. "The Older Generation and the Family," New Frontiers For The Aged, Donahue, Wilma and Tibbitts, C. (eds.). Ann Arbor: University of Michigan Press, 1957.



necessary. It is a well proven fact that a person who is depressed or who "doesn't care" is extremely liable to be careless, to have accidents and to become "incapable". Conversely, a relatively well-adjusted person is much more apt to use his or her capabilities to the fullest. This is particularly true of the aged.

Proper housing - with all that the term implies in the context of this discussion - may well serve as the revitalizing catalyst for many of the nation's elderly.

### C. PHYSIOLOGICAL ASPECTS

The underlying cause of many of the problems of the aged lies in the steadily progressive impairment of their mental and physical abilities. This process of deterioration has an influence on all aspects of life; on employment, economic position, psychological makeup, etc. The most important, however, is the effect which poor health and diminished abilities have upon the activities of day-to-day living and, consequently, upon the requirements of the physical environment. It is an accepted axiom of architectural design that man's shelter should reflect, as nearly as possible, man's requirements. This is particularly true with respect to housing for the elderly, since the price paid for the disregard of "requirements" is not merely inconvenience but, rather, possible danger to life and limb.

It is also important to note that, in terms of particulars, the aged are not a uniform, homogeneous group. The "aged" period extends over perhaps a thirty-year span. A person 90 years of age is apt to be just as different in his abilities, needs and outlooks from a person 60 years old as that person is from one 40 years old. The differences are progressive and a matter of degree rather than of kind. Accordingly, the housing requirements of the "aged" extend over a wide range. In any

broad program it would be just as foolish to provide only those minimal accommodations which would make a 60-year-old comfortable and happy as it would to provide everyone with all of the safeguards and conveniences that are necessary to insure a 90-year-old person a comfortable existence. Obviously, both extremes of convenience will have to be provided and some reasonable degree of balance aimed for.

The following discussion focuses in a very general way on these various aspects of man's physical decline with increasing age, and indicates how these aspects are directly related to design and planning requirements. It should be noted, however, that no attempt has been made, nor can be made (at the present time), to relate these various requirements to different age levels. Further research will need to be done and further experience gained before a truly balanced program can be achieved.

#### Disability and mobility

A number of studies have indicated rather conclusively that there is a significant correlation between age and chronic disease. The rate of incidence of chronic disease increases steadily from approximately 6 percent at age 30 to 70 percent at age 80.<sup>1</sup> Equally important, however, and more so from the standpoint of design requirements, is the extent to which these chronic diseases result in total disability of one form or another. Various recent studies have indicated that the total of the aged who are either bedridden or housebound is approximately 6 or 7 percent.<sup>2</sup> Approximately 26 percent are ambulant but limited in their activities and movements. A study made in Grand Rapids, on the other hand, indicated

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1. Home Care and Housing Needs of the Aged, New York: New York State Division of Housing, 1958, pp. 3-10.

2. Ibid.

that although only 1 percent were actually confined to bed or a wheelchair, 17 percent were confined to their home or yard.<sup>3</sup> A similar study in Great Britain gives evidence that a greater number of women than men are either completely bedridden, or housefast, or restricted in their outdoor movements. Approximately 3 percent of the men were confined, contrasted to approximately 14 percent of the women. Similarly, 26 percent of the men were restricted in their movements, whereas 31 percent of the women were restricted.<sup>4</sup>

These figures are highly significant from a housing standpoint, since they indicate the approximate percentages of the aged who need highly specialized attention and facilities. The 6 or 7 percent who are confined may be accommodated in nursing homes or they may have special facilities and care provided for them in normal housing units. If this group is to be accommodated within the context of normal housing, it represents the hard core which requires all of the specialized planning, equipment and attention which is so often confused with the requirements for the aged in general. All changes in level must be accomplished by ramps, all doorways and corridors must be wide enough to accommodate a wheelchair, all corners must permit a large turning radius, all equipment in the kitchen and bath must be lowered, re-arranged and redesigned to facilitate use by a person sitting in a wheelchair. Provisions need to be made for extra grab bars, sliding doors, etc. In short, the entire living unit

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3. Hunter, W. W. and Maurice, H. Older People Tell Their Story. Ann Arbor: University of Michigan Press, 1952.

4. Hobson, W. A. (ed.). Modern Trends in Geriatrics. London: Butterworth and Co., 1956, p. 399.

and its access must be rearranged to accommodate the intricacies of maneuvering around the unit in a vehicle, i.e., the wheelchair.<sup>5</sup> In addition, of course, provision must also be made for the various features necessary for the aged generally and for extensive medical care and supervision.

The group with limited mobility (26 percent), on the other hand, requires particular attention in matters of site selection and planning. Obviously, the selection of a site which is heavily trafficked and which lacks adequate sheltered outdoor areas, would have the effect of confining a large majority of these people to their quarters. This is important, not only from the point of view of psychology and the feeling of independence which is involved, but also from the point of view of physical health. A limited amount of exercise, which for the aged consists principally of walking, is highly desirable and even necessary.

The usefulness of properly planned outdoor areas is reinforced by the causes of these restrictions on movement which Sheldon found in the Wolverhampton study. He reports that

"The four most frequent causes (of restricted outdoor movement) are dyspnoea from various causes, arthritis of various sorts, weakness and lack of confidence often focussed on a fear of traffic. Painful feet, vertigo, and mechanical disabilities resulting from previous accidents or operations are of lesser frequency but are still important factors..."<sup>6</sup>

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5. Due to the fact that these design requirements for the disabled, or the physically handicapped, are so highly specialized and, in many instances, so totally different from the requirements of aged persons in general, it was felt that the discussion here should be limited, particularly since the disabled represent such a relatively small proportion of the total aged population. This was felt to be both necessary and desirable because both areas are too broad to receive adequate coverage in a single study of this scope. As a guide to further exploration in this area, however, a selected bibliography on design features for the disabled is presented in Appendix II.

6. Sheldon, J. H. The Social Medicine of Old Age. Report of an Inquiry at Wolverhampton. London: Oxford University Press, 1948, p. 30.



It is apparent from this list that while these people are still ambulant they require what might, in effect, be termed "exercise yards" - places where they can move about at their own pace without fear of traffic or active children and where they can sit and rest if necessary.

### Physical strength

Old age also brings a general and progressive decline in physical abilities; a decline which affects all activities, not just mobility. Although we may say, a priori, that there is a decline of strength with age, it is difficult to measure precisely. Most investigators are not inclined to say more than that the loss of strength is considerable, particularly in later years. Due to this decline in strength, all household and daily activities become increasingly difficult to perform. Some indication of the nature and the prevalence of these difficulties can be had from the results of a study of 868 persons over 60 years of age surveyed in Scotland in 1950.<sup>7</sup> The study showed that of the total 868 persons of both sexes interviewed, 15 percent had difficulty in dressing and bathing or were entirely unable to perform these functions for themselves. Of these, 10 percent required some help. Thirty-five percent experienced difficulty in climbing stairs or were unable to do so; of these, 14 percent needed help.

Of this sample, 33 percent of all ages and both sexes found it difficult or impossible to walk a half mile. This difficulty increased with age especially after 70. Twenty-three percent experienced varying degrees of difficulty in using buses alone. It should be noted that these figures apply to ambulant persons. This again is significant in

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7. Scottish Housing Advisory Committee, Housing of Special Groups.  
Edinburgh: H.M.S.O., 1952, pp. 64-71.

terms of site location and the accessibility of transportation, shops, etc., since it constitutes, in effect, a maximum walking radius for a substantial number of the aged.

The people in the sample were also asked about the amount of trouble they had (or thought they would have) in performing such household duties as cleaning, cooking, washing clothes, and shopping. Including both males and females, 37 percent felt they would encounter difficulty in cleaning, 32 percent in cooking, 47 percent in washing, and 31 percent in shopping. Seventy-seven percent actually received help in cleaning, 64 percent in cooking, 88 percent in washing, and 71 percent in shopping.

While one can quarrel perhaps with the applicability of one set of statistics to all situations, these figures do lend strength to the contention that the aged are significantly different from the balance of the population and accordingly require some special accommodation. The often quoted remark "What is good for the aged is good for everyone" is, of course, in essence quite true. The converse of this proposition is not true, however, except in rare circumstances, since it is a fact that the aged simply have not the strength nor the muscular control to perform the functions of daily living as well as do younger persons. If the difficulty which is encountered were a matter of effort, time, or convenience, the argument would not be so crucial. It is not. In some cases the difficulty involves health and/or safety and in other cases the difficulty encountered reaches the proportions of complete inability to perform tasks basic to daily living. In this same study, 15 percent of the sample reported that they were totally unable to clean house; 12 percent were unable to prepare meals; 27 percent were unable to wash clothes, and 16 percent were unable to shop.<sup>8</sup>

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8. Ibid., p. 65.

Falls

Decreased physical strength and the ability or inability to perform basic household tasks, however, represent only one aspect of the difficulties which the aged experience in their daily environment. One of the most important aspects of physical deterioration pertains to balance. With increasing age, the sense of balance diminishes rapidly. This makes the aged very prone to falls. Much of the lack of balance is due to the diminished psycho-motor function coupled with a lack of strength. A younger person enjoys a finer sense of balance and an ability to alter the position of his body quickly when a fall is imminent so as to catch himself. The older person, however, is rarely able to prevent falling completely once he has lost his balance. As a result, the aged are apt to fall whenever balance becomes the slightest bit precarious. Using stairs, climbing on stools, and working in awkward positions are all dangerous. Some aged people lose their balance if they merely raise an arm above their shoulder. This has serious implications for the design of storage spaces, the location of light switches, and any number of other items.

Equally as important as this liability to falling on the part of the aged is the fact that the majority of these falls are preventable. Droller reports that many of the falls experienced by older people had as their immediate mechanical cause some environmental factor, i.e., defective floors, steep stairs, etc.; factors which can be avoided through careful planning and design.<sup>9</sup> Other considerations in this connection are the proper shielding of light sources, the avoidance of overly wide widths of stairs, and the avoidance of long unbroken runs.

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9. Droller, H. "Falls Among Elderly People," Geriatrics, May, 1955, p.239.

Vertigo is another important cause of falls. It seems particularly liable to strike when arising at night to go to the bathroom. The rate of incidence of vertigo appears to increase with age. Sheldon states that in the Wolverhampton study almost 70 percent of the women 85 years of age and older suffered from this ailment.<sup>10</sup> Unfortunately, there does not appear to be very much that can be done to help or prevent this situation in terms of the physical environment other than to provide a very direct and short path from the bed to the bathroom. The importance of this direct bed-bath relationship cannot be emphasized too strongly since the aged have reason to make this trip so frequently, even at night. In addition to taking medicines, getting a drink, etc., many of the aged suffer from various urinary disorders which necessitate relatively frequent trips.

#### Olfactory decline

The olfactory senses of the aged suffer a general and progressive decline. In a number of instances, the sense of smell may be suddenly obliterated, either temporarily or permanently.<sup>11</sup> This latter situation is a particularly pertinent consideration with respect to the detection of smoke or gas fumes since the sense of smell cannot be relied upon as the sole means of detection. Automatic fire alarm systems and automatic shut-offs on all gas equipment are necessary.

#### Aural deterioration

Definite changes also occur in the hearing ability of older persons. The loss of hearing becomes progressively worse after about the 65th year,

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10. Sheldon, op. cit., p. 48.

11. Thewlis, M. The Care of the Aged. St. Louis: C. V. Mosby Co., 1946, p. 48.



particularly with respect to the higher frequencies. Hobson states that by the age of 80, almost two thirds of the aged of both sexes have a substantial impairment of their hearing ability.<sup>12</sup> In the Wolverhampton study, approximately 30 percent of the sample were afflicted with a partial or total loss of hearing.<sup>13</sup> This general impairment of hearing ability has several implications for design. It is evident that any alarm, signalling device, or door bell should be louder and lower pitched than normally would be the case. It may also be desirable to give consideration to supplementary alarm devices such as flashing lights. Another aspect to consider is that, because of their impaired hearing, many of the aged are apt to turn the volume of radios and television sets up to the point where they may create a nuisance to neighbors.

#### Vision

Advancing years also bring a progressive decline in the various aspects of visual ability. Visual impairment is particularly pronounced in dim light.<sup>14</sup> In addition, because of the atrophy of the eye muscles, the speed of adaption from light to dark or dark to light is greatly reduced. This results in the aged being "blinded" by a bright light (or an unshielded lamp) for a longer period than a younger person. This inability to see in darkness or dim light is one of the principal contributing causes of the many accidents the aged suffer at night. It points up the necessity for easily located and reached light switches.

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12. Hobson in Thewlis, M. The Care of the Aged. p. 148.

13. Sheldon, op.cit., p. 86. See also Stieglitz, E.J. Geriatric Medicine. Philadelphia: Lippincott, 1954, p. 299.

14. Lowdry, E. V. (Ed.). Problems of Aging. Baltimore: Williams and Wilkins, 1942, p. 242.

Another highly important facet of visual decline relates to deteriorating psycho-motor functioning.<sup>15</sup> This results in the aged having to place an ever-increasing reliance upon their (failing) vision to complete ordinary physical tasks and to maintain equilibrium. Many of the movements or operations, such as drinking a glass of water, which heretofore could be completed effortlessly, and which could literally be done in the dark, now require intense visual concentration. A physical task must, in short, be clearly seen in order to be performed adequately and safely. One obvious implication is that the aged cannot be expected to perform simple movements in the dark because their failing visual acuity prevents them from seeing what they are doing. Another highly pertinent conclusion which can be drawn from this is that everything in the home must have a visual as well as a physical accessibility. Placing things on shelves which cannot be seen, or reaching behind objects to perform what are in effect "blind" operations, can be extremely hazardous to many aged persons.

#### Temperature requirements

Various physiological changes in basal metabolism and vasomotor controls, together with a general atrophy of the sweat glands, result in an instability of body temperature which cause the aged to require higher temperatures and to avoid drafts. It is generally accepted that approximately 80°F. is the most desirable room temperature.

#### Respiratory system

Because of an atrophy of the mucous membranes and a generally lowered resistance to infection, the aged are particularly susceptible to various respiratory ailments. This suggests that separate sleeping arrangements

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15. Ibid.

are desirable as well as adequately ventilated rooms. This latter point raises a number of problems which as yet have not received any satisfactory solution. Because of this susceptibility to infection and the fact that they tend to spend the greater proportion of their time in their quarters, it is obvious that good ventilation is necessary. Normally, this is most expeditiously achieved by providing cross-ventilation. Cross-ventilation, however, tends to produce drafts - an anathema to the aged. The problem is a serious one because many of the aged simply refuse to open windows in order to avoid drafts. This is particularly true in northern climates.

It should be noted, however, that in hot climates the reverse is true - as one might expect. Cross-ventilation and its accompanying drafts and breezes are most welcome and desirable, since in excessive heat the aged are especially susceptible to rapid body dehydration and heat prostration.

Still another complication arises from the fact that the generally high heat levels which the aged need tend to result in a very low humidity. This produces an undesirable condition for the aged because low humidity has the effect of further drying out the mucous membranes and increasing the possibility for infections.

II

DESIGN AND PLANNING CONSIDERATIONS

Having defined the fundamental needs of the aged, these needs must be examined in detail to see how they are translated into various design and planning criteria and how, ultimately, these can best be turned to reality.

We can readily identify some of the more obvious criteria:

- 1) The accommodations must be small and compact, both for economy and convenience.
- 2) They must be of fireproof construction and designed for the maximum of safety.
- 3) They must minimize the problems of housekeeping and daily activities.
- 4) They should be eminently liveable and pleasant.
- 5) They should provide a high degree of privacy.
- 6) None of these features should be obvious enough to result in an institutional look.

These generalized criteria must also be broken down, however, in terms of specific space arrangements and specific materials and items of equipment. This is done in the following sections.

A. ACTIVITIES AND SPACE PLANNING

Spaces, in housing, exist to accommodate the basic activities of everyday living, i.e., leisure, sleeping, personal hygiene, food preparation and dining. These activities are common to all people and in large measure they are similar for all people. They determine the relationships which must exist between spaces and they determine the size, shape, equipment, and character of the space itself.

There are, however, variations in the manner in which these activities are performed and in the degree to which they are performed. We must, therefore, examine the activity patterns of the aged in the light of their particular economic, psychological and physiological needs and see how these affect space requirements.

#### 1. Space for Leisure Activities

Generally speaking, very little mention is made in the literature regarding the design of the living room, although a great deal has been written about leisure time and the leisure activities of the aged. This would suggest that the living room is the one area of the home which requires less special attention than any other. To a large extent this is true, although even those small things which contribute to greater comfort and happiness should not be overlooked.

Perhaps the most significant thing about the leisure time of the elderly is that they have so much of it. It has been suggested in this connection that in some contexts (such as this one) the important thing to concern oneself with in respect to the aged is not their age, or the concomitants thereof, but rather, the fact that this group is, by and large, retired. A way of life as well as with handicaps and physical requirements is being dealt with. From this point of view, the immediate surroundings (the living room) take on great importance because they tend to a large extent to constitute an elderly person's entire world. It is about this point that many of these special considerations revolve. In addition to the great amount of time spent there, it should be noted that the aged should also be able to actively and personally enjoy the space and its qualities. A normal living room is all too often, by contrast, a parlor reserved for display purposes, overt or covert, and for

state visits. Most people rarely use those spaces as extensively, and as intensively, as do the aged. It is obvious, therefore, that particular pains should be taken in the design of those spaces to make them as appealing and as interesting as possible - in terms of size, shape, outlook, color, etc.

This importance of design and liveability is reinforced by the fact that the areas which are generally available are relatively small. One suggested standard, for example, calls for 80 to 90 square feet of living area for single person occupancy. If dining is to be included, then an additional 40 square feet can be added. Two-person occupancy permits 140 square feet of living area.<sup>1</sup> Every effort should be made, therefore, to increase the apparent spaciousness of the area, and of the entire unit. Devices such as the proper proportioning of spaces, the creation of long vistas, the use of open-planning, etc., should all be used. A caution must be observed here, however, since open-planning oftentimes results in unfurnishable spaces, particularly if the spaces in question are small - as these are. This is an extremely important consideration because elderly people generally have large and cumbersome pieces of furniture which must be provided for - not only in terms of overall floor area but particularly in terms of unbroken expanses of wall and corners large enough to accommodate furniture. Provision should also be made for the hanging of relatively heavy and/or large pictures. This requires ample wall area and some ready means of hanging other than direct fastening. The re-introduction of picture molding might be in order here. Extra wide window sills to accommodate plants and built-in bookshelves would be desirable if they could be readily

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1. Standards of Design: Housing for the Elderly. Boston: Massachusetts State Housing Board, 1954, p. 7.

incorporated in the design. If the dining area is to be combined with the living area, it should be possible to place the dining table by the window, particularly in the case of single-person occupancy. If the disposition of the room is such that only one location is possible for the table, then provisions should be made in that area for a light, and a convenient outlet to accommodate a radio, toaster, etc.

In the case of a combined living-sleeping arrangement, these planning considerations become especially critical. In this situation, it is also highly desirable if the furniture can be arranged in a number of different ways. It should be possible (and encouraged), for example, to place the bed lengthwise along a wall, or in a shielded corner, and treat it like a sofa or couch to avoid the institutional look otherwise obtained.

Although the aged do not entertain extensively, particularly not large numbers of people, they generally do relish company and do have friends in, so that certain basic amenities in planning must be considered, such as shielding the living space from the entry and the front door. It should be noted in this connection that the aged are generally just as eager to keep up appearances as anyone else. Because of their general necessary relaxation of housekeeping habits, it would be preferable to avoid any direct views of the kitchen from the living room. A general catch-all storage closet (with a door) would also permit an aged person to tidy up quickly when callers come.

## 2. Sleeping Areas

Sleeping habits vary from one individual to the next, especially among the elderly. As a generalization, however, it might be said that they are apt to be at one extreme or the other. If healthy, the

older person may well spend far less time in bed than formerly. This may be due to daytime naps and/or a generally lessened requirement for sleep. However, there is an equal likelihood that the frequency and duration of periods of ill health may increase, as well as the periods of convalescence. This, of course, would lead to periods of extensive use of the bedroom. The tendency of most authorities is to provide for the latter situation - primarily in terms of good ventilation, light and view. It is generally felt that the likelihood of recurring chronic illnesses is such that the sleeping area should be as pleasant as possible.

Of the several sleeping area arrangements possible, the most favored are the sleeping alcove in the living room and the separate bedroom. The former is considered particularly suitable for single persons while the latter arrangement is felt to be necessary in any two-person situation. The simple combined living-sleeping arrangement is generally regarded as being undesirable because of the complete lack of privacy and the difficulty of keeping such an arrangement tidy and picked up.

The advantages of the combined arrangement, i.e., compactness, economy, and greater overall space, can, however, also be achieved by the alcove arrangement while at the same time the undesirable features are largely avoided. The alcove should be sufficient in size to accommodate a bed, night table, storage chest, closet and chair; the essential items of any sleeping area. Provision should also be made for closing the alcove off from the rest of the unit by a curtain or, preferably, a flexible partition. With the divider open, the alcove becomes a part of the living area and enlarges it. An additional advantage is the dual use of circulation space which this system effects.



On the other hand, if visitors should come, or if a nurse should be on hand, the person can still have privacy. From a cost point of view, the system has the advantage of being particularly economical in terms of space and construction. This is undoubtedly one of the reasons it has found such wide favor.

The arrangement does, however, have certain disadvantages; the principal one being the Oppressiveness which results if it is necessary for the curtain to be closed for any length of time. This is both visual and physical since another difficulty concerns the provision of proper ventilation and light. Although all the authorities recommend that a window open directly to the alcove, this is not always easy to achieve. Increasing the size of the alcove offers no advantage since it then begins to approach being a distinct room.

The provision of a separate bedroom is, of course, the ideal arrangement. As pointed out before, in the case of two-person occupancy, a separate bedroom is generally regarded as a necessity. With respect to this, it is usually recommended that bedrooms intended for such occupancy be large enough to accommodate twin beds and be capable of being curtained or screened off into two cubicles. This is desirable both from the point of view of privacy and also health. The recommended sizes for bedrooms vary somewhat, although the average size is approximately 120 square feet whether the room is to be occupied by one or two persons.

Regardless of the arrangement used, there are a number of detailed considerations which should receive attention:

- 1) The space should permit placement of the bed so that a clear minimum space of 18 inches can be left on three sides. This is necessary in order to facilitate bed-making and also any nursing

which may be necessary. In the case of two-person occupancy, three feet is often recommended as the clear distance between beds. Some persons also suggest allowing at least 5 feet at one side of the bed for a wheelchair.

- 2) There should be space for an oversize bedside table to hold medicines, water, tissues, etc., in larger quantities than normally.
- 3) The arrangement of the space should be such as to permit placement of the bed so that a bedridden person can see out the window.
- 4) It is often desirable to provide a bell or buzzer near the bed so that a person can summon assistance.
- 5) There should be a convenience outlet in close proximity to the bed location, which is also switched from the door or the entrance to the space. This would permit a bed lamp to serve as the essential "nightlight". Because of the two-way switching possible, this arrangement is preferable to the use of a single switched ceiling or wall fixture.
- 6) There must be a short and direct access from the bed to the bathroom.

### 3. Accommodations for Personal Hygiene

From the standpoint of safety and convenience, the accommodations provided for personal hygiene are of the utmost importance to the aged. Many of the difficulties and the accidents which the aged experience occur in the bathroom, particularly since a number of the activities which occasion its use are of an emergency nature. The person may be either in a hurry, or weak or dizzy, or both. In addition, the space provided is generally small and crowded with dangerous projections and slippery surfaces.

One of the first aspects to consider is the relationship which should exist between the bathroom and other areas of the dwelling unit. By far the most important is the relationship between the bathroom and the bedroom, or, more specifically the bed itself. Because of the great number of falls and accidents which occur along this route, particularly at night, it is absolutely essential, as was mentioned in the preceding section, that this relationship be as short and direct as is possible. The ideal path of travel would be a perfectly straight line without need to pass through other rooms or need to turn corners.

Although this is a primary and essentially a personal relationship, the bathroom must also obviously accommodate guests and be accessible from other areas of the dwelling unit. In some schemes it may, therefore, be possible to satisfy one objective only at the expense of another. Most authorities, however, would emphasize the basic bed-bathroom relationship. Other obvious considerations are that the bathroom be screened from the living area and that it be arranged so as to share plumbing stacks. It should also be noted that an interior bathroom location is generally acceptable and in some instances is considered preferable.<sup>2</sup> Windows are felt to be undesirable because of lack of privacy, drafts and the difficulty of opening them. If an interior location is used, then mechanical ventilation is essential, and should be automatically controlled by the light switch.

Although larger room sizes might prove advantageous, for economy's sake it is generally recommended that bathrooms be the minimum 35 to 40

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2. Ibid., p. 5.

square feet. In the case of disabled or physically handicapped persons, however, a space almost double that size is required, primarily to accommodate a wheelchair.

The normal three items of equipment, i.e., toilet, lavatory and bath tub and/or shower, are considered acceptable for the aged. There is also no evidence to suggest that any one of the many possible ways of arranging this equipment is any more desirable than another, with one exception. There is some feeling that the toilet should be located between the lavatory and the tub, if one is used. This is contrary to common practice but it does have the advantage of permitting the toilet (if equipped with a cover) to serve as a seat, either for a person using the lavatory or a person testing bath water or resting after a bath. In this connection, it should be noted that covers are generally desired, both to serve as a seat and for appearance. One agency also recommends that because the elderly generally tend to fall onto seats, "water closet seats should be of the sturdiest, most shock-proof construction, in order to avoid excess maintenance and replacement costs."<sup>3</sup>

For assistance in sitting down and getting up, some form of grab bar is generally recommended, either a vertical bar mounted on the wall alongside the toilet (which is impossible, incidentally, if the toilet is in the preferred position between the tub and the lavatory) or a pair of arched bars set in the floor alongside the toilet. The latter arrangement has several advantages in this particular situation: it permits the use of two hands, it also enables a person to push which is easier than pulling, and it can serve as an arm-rest and general support. This latter arrangement is also, of course, necessary if the toilet is centered between the other equipment. It is also desirable to have the emergency call bell within reach.

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3. Ibid., p. 7.

Lavatories are generally recommended to be set at the standard 31-inch height. Some question has been raised regarding this from the standpoint that the aged tend as a group to be shorter than younger persons. There is, however, no evidence at the present time to support either position. The lavatory should always be equipped with a single mixing faucet to avoid the danger of scalding. Large lever-type handles and mechanical drains are desirable features. Care should also be taken to avoid any projections over the lavatory. Medicine cabinets, for example, should be set flush with the wall and all soap dishes, etc., should be recessed.

The question of whether to provide the aged with a shower or a tub is still controversial as, indeed, it has been for some years. The weight of medical evidence and reasoning favors the shower for most circumstances. A shower is generally cleaner, more invigorating, and safer. There are no high sides to climb over as in a tub and there is no danger of a person dozing off and drowning. A shower can also be provided with a seat which makes its use quite safe. It also uses less water. The principal objections to the shower are that elderly people have shown reluctance to use it because it was new and different, and that the shower is more expensive to install and maintain. This situation is gradually changing, however, and it may not be too long before showers will find quite wide-spread acceptance. As they become more common, fewer elderly people will continue to find them strange and of doubtful desirability. It is also coming to be realized that with the use of tub seats and hand sprays the bathing operation has essentially become that of a shower rather than a tub. This is particularly noticeable when one examines the various attempts which have been made to redesign the tub to accommodate the aged more conveniently and safely.

In this connection, it may be pertinent to cite the reports of two agencies which have recently explored the matter.

"The substitution of showers for baths in small houses is an innovation in Scottish housing and we were at first doubtful if the novelty of a shower would be readily accepted by older people. We, therefore, took the opportunity of sounding the opinions of older people on this question in the course of our Survey. Interviewers carried a picture of the type of shower which we have in mind and asked older people who wished to move if they would be willing to have an appliance of this kind in their new house in place of a bath. The replies....showed that almost 40 percent of the older people who wanted to move were prepared to have a shower. The proportion was higher among women than among men and tended to rise with age, showing that a shower appealed most to those who experienced the greatest difficulties with baths. Bearing in mind that very few of these old people had personal experience of the advantages of a shower and that the illustration could not convey a direct impression of them all, we consider that the figure of 40 percent is remarkably high and we believe that showers would rapidly become popular with most of the remaining older people when they discovered their advantages for themselves."<sup>4</sup>

"Showers with commodious (non-slip) seats are desired. (While the elderly of this generation will feel more at home with bath tubs, detailed conferences with doctors, nurses, and directors of homes for the aged, indicated that tubs are a hazard for many and indeed showers appear to be the best answer. Whether one bath tub might be installed on each floor for soaking purposes can be later considered.")"<sup>5</sup>

This last point regarding the provision of at least one tub for soaking purposes is an important one to bear in mind if stall showers are to be used exclusively, since many of the aged have need to soak their limbs on occasion. This would seem to be a preferable solution to the suggestion that a high curb be built around the shower stall, since that would only result in creating a tub all over again.

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4. Scottish Housing Advisory Committee, Housing of Special Groups. Edinburgh: H.M.S.O., 1952.

5. Housing the Elderly. San Antonio: San Antonio Housing Authority, 1957, p. 88.

Several other features should be considered if showers are to be used. The floor of the stall should be of a non-slip material such as ceramic tile and, quite obviously, a grab bar should be provided. Generally this is a vertical bar mounted at approximately waist height on the side wall, i.e., on either wall not directly opposite the shower head. To prevent scalding it should be possible to adjust the water temperature, and the flow, before entering the stall. Soap dishes should be provided and should be recessed. One agency also recommends that shower stalls be equipped with doors rather than relying upon curtains. The feeling is that even though the initial costs are higher, the reduced maintenance and water leakage made possible by the use of doors would eventually result in a saving.<sup>6</sup>

The prime consideration, if a tub is used, is to provide the proper convenience and safeguard in the form of grab bars. Two bars are generally thought to be necessary; a vertical bar mounted at chest height on the wall at the head of the tub, for assistance in drawing water and getting in and out of the tub; and either a long bar running horizontally a foot above the rim of the tub or, a long bar sloping down from the head to the foot of the tub, for assistance in raising and lowering oneself in the tub. The sloping bar has the advantage of permitting a person to ease himself up and down with greater security. Perhaps the most desirable arrangement is the combined bar which begins as the vertical bar at the outer front edge of the tub, then runs horizontally along the front of the tub at approximately waist height and then slopes down along the side. This has the advantage of an extra length of support and almost more important, a cleanness of appearance that causes it to look like "less" rather than "more" bar. This last

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6. Ibid.

is not an unimportant consideration. It is interesting to note, in this connection, that the old-fashioned free-standing tub had a decided advantage over the newer built-in variety in that the rim offered a firm grasp everywhere around the tub - a grasp which must be provided for today with extra bars.

All bars should meet certain minimum specifications: they should be of non-corrosive metal and mounted so as to withstand a direct pull of at least 500 pounds. For ease of gripping, they should be no less than three quarters of an inch in diameter nor more than one inch in diameter.

Grab bars are one of the more challenging areas of design with respect to the bathroom. Although they are undeniably useful for persons of all ages, there is general reluctance to provide them except in the case of the aged. Since, in many respects, a well-designed bathroom need only have bars added to make it more nearly suitable for the aged, there has been considerable interest expressed in various attempts to develop some flexible system which would permit bars to be added or removed with ease. The suggestion made most frequently is that a special wall fastening be developed which could be built in to the wall initially to receive bars but which would permit easy removal and still present a finished appearance. Such a device would appear to present no serious difficulties and it is undoubtedly only a matter of time before one becomes a reality.

A more serious problem (since it is somewhat doubtful whether a highly useful tub or shower grab bar would actually be removed for a younger occupant) concerns the floor mounted bars at the toilet. This, however, could undoubtedly be solved in a similar fashion, or, it might even be possible with some models of toilets to mount the bars on the same floor lugs that hold the toilet in place.



In any event, it is apparent that some highly useful experimenting and designing can be done in this area.

Another consideration with respect to the tub is the provision of a seat, either built-in or portable. Some types of tubs are designed with an integral corner seat and are generally to be preferred. They have the disadvantage, however, of a smaller bathing well. The portable seat, which is obviously not as convenient and which may not be as sturdy or safe, is wedged between the sides of the tub. If its use is contemplated, however, care must be taken to select a tub with sloping sides since the seat cannot be used in a tub with walls that are essentially vertical, as many are.

There are also a number of incidental considerations regarding the bathroom which should receive attention. For example, there should be enough space to accommodate a clothes hamper. It might also be desirable to make some provision for strategically placed wall-hooks (as is common in hotels) to accommodate such items as syringes, enema bags, etc.

The medicine cabinet should be extra spacious to accommodate the large quantity of medicines and special equipment which so many of the aged need. One agency suggests that the standard medicine cabinet be eliminated and space and shelving set aside in the linen closet instead.<sup>7</sup> This would offer more generous and flexible storage and permit the use of a flush-mounted mirror over the lavatory, saving the expense of recessing a cabinet.

All towel racks or rods should be of sturdy construction and securely mounted, since the aged tend to steady themselves on them when moving about the room. The use of glass towel rods should always be prohibited.

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7. Ibid., p. 89.

#### 4. Meal Preparation and Dining

Meal preparation represents another area of great concern because, like personal hygiene, the activities which take place are relatively strenuous and the equipment which must be used is, in many cases, potentially hazardous. The facilities provided for meal preparation also deserve special consideration because of their highly essential nature. The degree of convenience and safety in the kitchen may well mean the difference between an aged person eating properly or not.

One of the first questions which needs to be answered is what sort of arrangement should be provided. Of the several possible arrangements, i.e., pullman kitchen, kitchen alcove or separate kitchen, the full-scale separate kitchen seems to be generally preferred. In this particular situation, i.e., for use by the aged, the general advantages of the pullman kitchen turn out to be disadvantages by and large. Because of its compactness, the storage spaces become extremely difficult to reach and the crowding together of equipment and lack of working surface results in very hazardous working conditions. Another disadvantage is that this arrangement virtually forces a person to be scrupulous about her housekeeping, since there is no way to temporarily hide or escape from the mess which invariably results. All of these disadvantages are overcome with the provision of a full-scale kitchen.

In addition, it is well to bear in mind that a separate space like a kitchen may be highly desirable from a psychological point of view. In a necessarily small dwelling unit, a single space which accommodated a number of activities could very quickly become terribly depressing and monotonous. This would be especially true in the case of the aged, since they spend so much time at home. An opportunity for variety, experiencing another space and another atmosphere, would be very welcome

to many aged persons. Up to a point, this of course is a denial of "open planning". However, it is felt that the solution lies not in either extreme but, rather, somewhere in between.

If a separate kitchen is planned, there are two basic relationships which should be satisfied: the relation of the kitchen entrance to the front door and the relation to the dining area. The former should obviously be a very direct and close relationship. The latter, however, while it should also obviously be direct and close, poses some problems depending on the type of dining area which is to be provided.

The most frequently used, and apparently the most satisfactory, solution is to provide dining space in the living room, preferably in the form of an alcove. Such an arrangement can provide direct access to both the kitchen and the living area as well as enlarging the living space. This is also desirable since the dining table can then easily multiply its functions. It can be used as a desk, a sewing table, or a card table, etc. The suggested minimum size for such an alcove is generally approximately 40 square feet. If more than two people are to be provided for, then another 15 square feet is generally added per person. To be as flexible and usable an area as possible, the alcove should be more nearly square in plan than rectangular. Care should also be taken, obviously, to relate this area very closely to the kitchen so that no unnecessary walking and carrying is involved. It would also be desirable, as mentioned earlier, if the alcove could be on an exterior wall and have a window so that a view might be had from the table, particularly in the case of single-person occupancy.

The alternate arrangement is to provide for dining space only in the kitchen. Many studies show that most families prefer to eat their regular meals in the kitchen - studies which have covered all age groups.

The only objections would appear to stem from the desire, by some families, for a more formal dining area and from the fact that a separate dining area also provides, as mentioned, supplementary living and working space. This arrangement has also generally found favor in Europe, where the practice of eating in the kitchen is widespread. The Scottish Housing Advisory Committee states that,

In the course of visits to older people's houses, we observed that it is usual for elderly people to eat their meals in the kitchen unless they have visitors. This seems to us a sensible arrangement; it reduces the housewife's work and, whatever may be the disadvantages of eating in the kitchen in households with children, we see no reason why it should be discouraged with older people."<sup>8</sup>

The size of the kitchen which is generally recommended for the aged is 50 square feet or less. This is the area of a standard minimum usable kitchen and appears to be quite well suited to the needs of a single aged person. It should be noted that this area does not provide space for eating in the kitchen, however. This would require an additional 20 to 30 square feet. In support of such a minimum kitchen, the same committee observed that

"the labour of housekeeping increases in direct proportion to the size of the kitchen and the single person does not enjoy the compensating advantages which the additional space provides in facilitating the numerous, complex tasks which have to be performed in a family household. We believe that the greatest labour-saving device which can be provided for the single person is a compactly planned and equipped kitchen of the minimum size compatible with efficient performance of the essential tasks of cooking and cleaning."<sup>9</sup>

There is some question as to whether the most desirable location for the kitchen is exterior or interior. From the point of view of pleasant-

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8. Scottish Housing Advisory Committee, op. cit., p. 21.

9. Ibid., p. 20.

ness, light and ventilation, an exterior location is obviously preferable. However, as has been pointed out earlier, many of the aged will not open windows from a fear of drafts, so that in order to assure a minimum of ventilation, a mechanical system must be used. But if a mechanical system is used, then the kitchen might just as well be in an interior location which also offers certain cost and planning advantages. Since the question of being able to rely on windows for ventilation would seem to be largely a matter of climate, it may well be that both arrangements can be satisfactorily used, depending on climate. A recent survey of the preferences of the aged on this question revealed that slightly more than half of the respondents were willing to accept an interior location, while the remainder were mildly or firmly opposed.<sup>10</sup> This would tend to confirm the view that both locations are satisfactory and acceptable depending upon the circumstances.

Within the kitchen itself, there are a number of specific points which must receive careful attention, both in terms of general planning and the selection of equipment. With respect to the efficiency and the convenience of the arrangement of equipment, the most desirable sequence is: refrigerator-counter-sink-counter-range-serve.<sup>11</sup> This is well accepted and presents no difficulties. The arrangement of storage space, however, is a different matter, particularly with respect to implementation. There is general agreement that, from the standpoint of avoiding fatigue, all reaches over 63 inches and under 27 inches should be eliminated. The excessive reaching and stooping which takes place if movements

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10. The question was asked, in a study of the Cornell Housing Research Center, of 175 families living in specially-designed units for the aged in 10 public housing projects in New York City, in the summer of 1958. The responses were: would accept it - 39 percent; it doesn't really matter - 16 percent; would not like it very much - 27 percent; and, would not like it at all - 18 percent.

11. Beyer, G. H. (ed.). The Cornell Kitchen - Product Design Through Research. Ithaca: Cornell University, 1952.

outside of this average range are necessary, is extremely tiring to all persons. In the case of the aged, however, the restriction of necessary movements to this range is crucial. As mentioned previously, many of the aged lose their sense of equilibrium when reaching over their heads. Similarly, stooping or bending over to reach something close to the floor is liable to cause a dizzy spell. Both can be extremely dangerous in a kitchen. As was also mentioned previously, the aged are more dependent upon direct vision for the performance of ordinary tasks such as taking down a platter from a shelf. It is apparent, therefore, that all storage spaces should fall within this range, particularly storage which may need to be used with any frequency. It should be noted that observance of this criteria would also satisfy the rule suggested earlier; that everything have a "visual as well as physical accessibility.

The problem which is presented by this criterion, and which has yet to be satisfactorily solved, is that in order to provide sufficient storage space within this desirable range, it is necessary to greatly expand the space horizontally; yet this is patently impossible in a minimum size kitchen. It is in the solution of this problem, incidentally, that an interior kitchen may prove to have a decided advantage since the elimination of a window would furnish some of the necessary extra wall space. The problem is further aggravated by the obvious suggestion that a separate waist-high wall-hung oven would be highly desirable for an aged person. In short, a considerable amount of research and designing needs to be done in order to develop a kitchen which is both safe and convenient for an aged person.

The selection of the proper equipment should also receive careful attention. It is generally agreed, for example, that electric ranges

and ovens should be used rather than gas. This recommendation is based on the great number of accidents which have occurred through undetected gas leakage or extinguished pilot lights. As was pointed out in section I, the sense of smell declines with age and may disappear altogether for periods of time. Gas appliances also present a fire hazard to the elderly, since diminished eyesight prevents many from seeing the flame clearly. In other instances, the aged, from a fear of poisoning or explosion, have been known to throw lighted matches at open range burners from across the room. This has resulted in numerous fires and cases of near-asphyxiation.<sup>12</sup> A number of people, however, have a preference for gas equipment. If they are to be used, they should be vented to the outside and should receive regular inspections.

If electric appliances are used, several precautions still need to be observed. The controls should always be at the front rather than at the rear so as to prevent sleeves from being dragged across lighted elements. The elements themselves should have a positive glow when lighted.

Refrigerators of 6 cubic foot capacity are generally regarded as adequate for the needs of the aged. Ideally, they would be self-defrosting and equipped with a large frozen-food compartment. The latter would be a particular convenience to the more infirm who have difficulty in marketing. Care should also be taken to select a model that has an easily opened door.

Double sinks should always be provided so as to facilitate hand laundering. Faucet handles should be large and easily worked. Unless some provision is made elsewhere in the building for washing machines, it would appear that consideration should also be given to the provision of a laundry tub. It is probably preferable, however, to make available

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12. Housing the Elderly, op. cit., p. 29.

a communal laundry facility. Depending on the circumstances, this might be provided for each floor, or building, or court as the case may be. A communal facility would also permit the inclusion of dryers. This would be highly desirable since the drying of clothes presents a considerable problem to those aged persons doing their own laundering in the kitchen.

In addition to these considerations, most of which are concerned with safety, there are a number of other miscellaneous points which should not be overlooked:

- 1) Garbage disposal, for example, should be made particularly convenient, since limited energy and limited mobility lead many of the aged to store trash and garbage for dangerously long periods.
- 2) Inaccessible and hard-to-clean spaces should be avoided wherever possible.
- 3) A wooden fastening strip should be provided to accommodate various items such as can openers, towel racks, etc.
- 4) Floors should obviously be of a non-skid material.
- 5) Attention should also be paid to lighting and switching.
- 6) The matter of storage cabinet doors is somewhat controversial.

It is known that many families have a preference for some kind of door, for the sake of both cleanliness and appearance. On the other hand, some home economists have recommended against doors for storage cabinets on the basis of convenience and safety. If doors are provided, sliding doors are to be preferred over hinged doors, until a better type is invented. A caution is issued, however, about the type of sliding door that permits pinching the fingers when opening it, or allows crumbs and dirt to accumulate in the channels on which the doors ride.



### 5. Communal Arrangements

The discussion in this section has so far concerned itself with what might be considered "normal" living arrangements, i.e., private and individual spaces set aside for each of the principal activities. There are, however, other arrangements possible, which, in certain circumstances have some decided advantages over the normal accommodations. These, of course, are the various communal arrangements which can be effected (in this discussion, still within the context of "non-institutional" housing).

Before proceeding to this discussion, however, it may be well to point out that considerable confusion exists with respect to the use and definition of the term "community facilities". In housing generally, the term refers to all community-wide facilities such as shops, restaurants, churches, schools, clinics, etc. In considering the aged of the population, however, the term is used to define only those facilities which are community sponsored or supported in an official sense. Thus, they would include clinics, social centers and communal dining arrangements such as those under discussion, but they would omit all privately owned and operated facilities such as shops and theaters. This problem of semantics is raised because it has proved troublesome in the course of the study. In order to avoid this confusion, the term "communal arrangements" is used here to define in a very limited sense various space arrangements for group rather than individual use. Some attempt should be made, however, to clarify the various usages of "community facilities".

The activities which most readily lend themselves to various communal arrangements are personal hygiene, meal preparation, and dining.

There has been a considerable amount of interest expressed from time to time in these arrangements because they offer both the promise of substantial economies and more nearly suitable accommodations for some people.

The most common and the most popular arrangement is to provide normal accommodations (as in a hotel, i.e., sleeping-living area, and a private bath) and a communal dining facility. There are a number of reasons for the popularity of this:

- 1) The physical chores of shopping, meal preparation and clean-up are avoided.
- 2) A great number of people do not enjoy eating alone. Mealtimes seem to emphasize to a person how lonely he or she is.
- 3) A more nourishing and healthy diet can be provided than single aged people are apt to provide for themselves. All too often they have no appetite; they find wholesome meals too much bother to prepare; or, they simply cannot afford decent meals.

This last consideration is undoubtedly the most significant from an overall point of view, since a proper diet can do much to keep a person active and in good health.

In a survey in Great Britain approximately one quarter of the aged persons interviewed indicated that they would be prepared to use such a communal dining facility if it were available. Interestingly enough, even a greater number, approximately 30 percent, were in favor of a "meals-on-wheels" service.<sup>13</sup> The attractiveness of this scheme undoubtedly stems from the greater freedom and privacy which it offers, particularly for those persons who may be indisposed or in ill health. This would appear to be an area which could very profitably be explored further.

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13. Scottish Housing Advisory Committee, op. cit., p. 71.

The provision of communal bathing facilities is generally less often found, and less popular. It should be noted that bathing is meant here in its narrowest sense, i.e., only bathing. It is obvious from the discussion earlier that a private and readily accessible toilet and wash basin are essential for the aged. Such an arrangement, of course, does not result in any economies since separate plumbing facilities must still be provided. The principal objection to this arrangement appears to be the lack of privacy. There is, however, the decided advantage of being able to provide an attendant to assist the frail and the infirm. This would be a substantial step toward the elimination of the accidents associated with bathing. Another advantage which may be gained from this scheme is the possibility of tying in a health check-up or health care program which could be both regular and subtle in its existence.

Consideration should also be given to the fact that such an arrangement would permit the concentration of the highly specialized physical accommodations for bathing. This would allow greater design attention to be devoted to these facilities than is presently possible and it would also make feasible some major changes in the resulting individual toilet rooms. These could well become more compact and in all probability more useable.

As mentioned, the more common and most advantageous arrangement appears to lie in the provision of a communal bathing facility only. There are also, of course, arrangements which stress communal toilet facilities as well. Many of the "hostels" in Great Britain provide only public toilet and bathrooms on each floor. While this arrangement may be satisfactory and acceptable for some younger persons, this is not true for the aged. In the aforementioned survey, only 13 percent of the aged indicated a willingness to live in such a hostel where they had a bed-sitting

room. Only 4 percent were willing to accept such an arrangement when they had only a bedroom.<sup>14</sup> These results are not surprising in view of the needs of the aged with respect to convenience and privacy.

It is difficult to say anything more about either of these arrangements at the present time other than that they have some undeniable advantages - in terms of both the individual and the sponsoring agency. There is no question but that these arrangements will have enormous appeal to certain persons or groups and not at all to others. A great deal of study and experimentation will have to be undertaken, however, before any definite conclusions can be reached regarding the degree to which such arrangements should be provided.

Aside from these two major areas which directly involve space and planning requirements, there are several others in which the provision of community services may be desirable as well. These are housekeeping and laundering; two activities which prove difficult for a number of the aged. The recommendation is generally to make available some supplementary housekeeping and laundry service to those persons who need it. In the context of this discussion, however, these are not significant since they have relatively little effect on space or planning needs.

#### B. DESIGN AND EQUIPMENT GUIDES

The preceding section has discussed in some detail the various requirements regarding the design and the arrangement of primary living and working spaces and their relationships with one another which arise out of a consideration of the daily activities and living habits of the aged. Some attention must also be focused, however, on the effect which these requirements have on the selection of flooring, hardware,

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14. Ibid., p. 69.

windows, heating systems, etc. - all the physical components of housing. Just as a particular space arrangement might prove to contribute more to the comfort and convenience of an elderly person, so might a particular material or item of equipment. A number of the criteria for the proper selection of these items are discussed in the following sections.

### 1. Floors

Non-skid flooring is perhaps the most frequently repeated slogan in housing for the aged. There is, of course, good reason for this since the aged are so liable to falls. It is important to note, however, that visual slipperiness is just as important in this connection as actual slipperiness. Highly glossy floor surfaces can be psychologically dangerous to the elderly even though the floor in question may actually be non-skid. The Massachusetts report makes the statement that "a floor which looks slippery, in that it makes one 'walk on eggs', is almost as bad as a really slippery one."<sup>1</sup> This is particularly pertinent to lobbies and other public spaces which generally have large expanses of glossy, although perhaps non-skid surfaces.

With respect to the flooring materials themselves, a number of different materials are commonly suggested. These include unglazed tile, cork, vinyl asbestos tile, unfinished wood and, ideally, wall-to-wall carpeting. The last is generally considered too expensive to use, particularly for public housing. The San Antonio Housing Authority, however, suggests that wall-to-wall carpeting or matting may not be as expensive as is generally imagined and that it would have the additional advantage of providing excellent sound-proofing.<sup>2</sup> The use of carpeting

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1. Standards of Design: Housing for the Elderly. Boston: Massachusetts State Housing Board, 1954, p. 15.

2. Housing the Elderly. San Antonio: San Antonio Housing Authority, 1957, p. 85.

which is not wall-to-wall is a different matter entirely, particularly with respect to small throw rugs. These are generally dangerous; first, because they are quite likely to slip out from under foot, and, second, because they are frequently nubby and rough textured. Some people, however, feel that any carpeting is preferable to none, chiefly from a psychological point of view. They take the position that if small rugs, which add color and warmth to a room, can be either tacked down securely or used in conjunction with a rubber mat, they will be satisfactory.<sup>3</sup>

Wood flooring also has some advocates. In Great Britain, for example, there is a strong feeling that wood floors are the most desirable, principally because of their warmth - psychologically and physically.<sup>4</sup> From an entirely different point of view, unfinished wood floors are recommended for use in housing for the disabled because of the superior traction it offers to wheelchair users.<sup>5</sup>

Another highly important consideration, which must not be overlooked, is the matter of finishing agents. Quite obviously, the use of improper floor waxes will tend to nullify the non-skid qualities of the original flooring materials. Special non-skid waxes should be used wherever needed and tenants should be made aware of the necessity for their use. In this connection, one housing authority goes so far as to recommend that "if

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3. Robertson, N. "Emphasis is on Coziness in Homes Suggested for Nation's Elderly," New York Times, May 7, 1958, p. 39.
  4. Scottish Housing Advisory Committee, Housing of Special Groups. Edinburgh: H.M.S.O., 1952.
  5. Johnson, M. "An Investigation of the Opinions of Florida Homemakers with Certain Physical Handicaps, Concerning Their Living Quarters." (An unpublished M.S. thesis., Florida State University, Tallahassee, Florida, 1952.)

asphalt tile is used, non-skid wax should be sold by the Authority to each tenant; otherwise a hazard is created."<sup>6</sup>

It must also be noted that the smoothness and levelness of floors is equally as important as the slipperiness. Even the slightest irregularity is a potential hazard for the aged who tend to shuffle when walking. It has been observed that in walking, the aged lift their feet only half as high as a younger person. Particular attention must therefore be paid to highly jointed surfaces such as tile and concrete paving. The use of door thresholds is to be avoided, except perhaps in the case of exterior doors where weather protection is the overriding consideration. Careful attention must also be given to those slight changes in level which occur when floor materials change - particularly at the kitchen and bathroom doorways if these areas are tiled and the rest of the unit is not.

## 2. Doors and Hardware

There are a number of detailed considerations with respect to the selection of doors and hardware for the aged which should receive attention. First, the size of the opening itself may be important. A number of people recommend that all doorways be wide enough to accommodate a wheelchair. This is undoubtedly a precautionary suggestion since the number of disabled wheelchair users is relatively small. A counter-suggestion has been made to the effect that it would probably be simpler and cheaper in the long run to have wheelchairs redesigned. Experience, however, indicates that wide door openings (3 feet) are generally desirable - for persons using crutches, for the passage of stretchers, etc

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6. Housing the Elderly, loc. cit.

Also, as has just been noted, it is desirable to omit all raised door saddles or thresholds, with the exception of exterior doors. Where they are unavoidable due to changes in floor level, the saddles should be beveled.

All entrance doors should be master-keyed so that in emergencies the elderly can either be warned or given assistance. It is also important to omit and to prohibit the use of dead bolts, chains or any other devices which cannot be operated from both sides. It may be desirable, however, to equip entrance doors with peep-holes or vision panels so as to provide some measure of physical and psychological security.

Door closers are generally felt to be undesirable except for exterior doors. Their quick action can be dangerous to slow-moving persons, particularly if someone has just used the door before them. Double-acting and particularly revolving doors tend to be especially hazardous for the aged.

Large, easy to grasp door knobs should be chosen, preferably octagonal or hexagonal, rather than round. A number of authorities have come to recommend lever-type handles as being the most desirable.

Extra care should be taken to see that all doors fit properly and do not bind.

Closets should always be fitted with doors, contrary to some current practices, particularly in the case of combined living-sleeping arrangements. The omission of doors has been tried in a number of instances but has met with resistance and unhappiness on the part of the tenants.<sup>7</sup> This is understandable when it is considered that the closet tends to be a particularly valued "life-saver" for the aged who are prone to laxity in their house-

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7. Housing the Elderly, op.cit., p. 28. See also, New York City Housing Authority Report, GM-839, S & R 219, August, 1954.



keeping habits. Sliding doors are the most desirable, both because of the greater access which they permit and because there are no half-open swinging doors for persons with failing vision to walk into.

### 3. Windows

Windows serve the triple functions of providing ventilation, light and view. Particular care should be taken to insure the most satisfactory performance of each of these functions, since the elderly tend to spend more of their time indoors than do younger people. A pleasant view is especially important - although there is not necessarily any unanimous agreement on what constitutes a pleasant view. Generally this is interpreted as a quiet pastoral scene; however, there are a number of the elderly who prefer a view of an active bustling street where they can watch cars go by, for example. The only conclusion which one can draw from this is that almost any view is acceptable so long as it is not positively unpleasant and so long as it is interesting enough to hold a person's attention for long periods. Views of light shafts or of other buildings across alleyways are obviously the least desirable.

As a matter of implementation, sill heights should be such as to permit a reasonable view while comfortably seated - without the need to strain forward on the edge of a chair. There is some feeling, however, that sill heights should not, in any event, be much lower than 30 inches above the floor. Exceedingly low sills are apt to cause feelings of insecurity and fear. In the event low sills (30 inches or lower) are used, however, a guard rail must always be provided at approximately chest height (42 to 48 inches).

A second requirement of windows is that they provide ample light and sunshine. Ideally, of course, all dwelling units should have a generally southerly orientation so as to admit as much direct sunlight as possible,

particularly in the winter months. This is desirable from a psychological as well as a physical point of view, since, as has been pointed out, many of the aged tend to spend the greater part of the day indoors. Large window areas are also desirable from the point of view of the light they admit as well as the view which they permit. They also help to achieve the relatively uniform light distribution which is so desirable. In this connection, strip windows are to be preferred over windows spottily punched in a wall.

Large window areas, however, particularly if they happen to be oriented to the south, tend to produce an excessive amount of glare. This is especially uncomfortable to the aged. Precautions must be taken, therefore, to provide some sort of shading device. Venetian blinds are probably the most satisfactory, since they provide both positive and variable control of the light. Roller shades, on the other hand, should generally be avoided. They shut off light at the expense of view and they are potentially hazardous to the elderly. The retrieval of a shade whose spring mechanism has been tripped can only be effected by climbing - a hazardous undertaking for an aged person, particularly alongside a window. One housing authority suggests that draw drapes may be the most desirable solution. They recommend that the designer...

"plan for manually operated draw drapes rather than shades or Venetian blinds. Experience in Phoenix indicates sturdy materials for this purpose are less expensive, more durable and better liked than other treatments. The pull cords should have a heavy weight encased in a knitted sack so that the drapes will stay in place when drawn and so that they will not be easily torn or soiled. Generally, heavy denim should be considered. Colors will depend on flooring and wall colors developed."<sup>8</sup>

The third function of a window, i.e., to provide ventilation, is a matter of some controversy. A number of persons suggest that positive

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8. Housing the Elderly, op.cit., p. 85.

cross-ventilation is a necessity for the aged, since they are confined to their rooms for long periods and since they are particularly susceptible to respiratory infections. On the other hand, it is noted that the aged are particularly sensitive to drafts because of their difficulty in adapting to temperature changes. It will be observed that ventilation and draft are used synonymously since even the most carefully arranged-for natural ventilation will produce some drafts. This is reinforced by the experience of various housing authorities (in northern climates) who have observed, much to their dismay, that the majority of the aged simply refuse to open any windows at all. In a number of instances, this has created nuisances of heroic proportions with respect to cooking odors, grease fumes, etc. This raises the question of how to provide adequate air changes and still avoid drafts, since, in the light of the experience to date, it would seem foolish to go to great pains to provide for cross-ventilation which is never used. The obvious answer which suggests itself is some form of year-round mechanical ventilation which has a low velocity output. A mechanical exhaust system for the kitchen is particularly desirable and is often recommended. In warm climates where drafts are not a serious problem, mechanical ventilation (and cooling) is recommended to combat the heat.

A number of other considerations should also be recognized. In extreme northern climates, windows should be weatherstripped and either double-glazed or provided with storm sash. Provisions should always be made for insect screens. Except in the case of high-rise buildings, it may also be desirable to provide windows which can be cleaned from the inside. Ease of operation must be considered in the selection of windows for the aged, since certain types can prove to be too great a strain. The type which is most frequently recommended is a casement sash with a bottom vent panel and

a large mechanical operating mechanism, although there have been instances where aged tenants have complained about the difficulty of operating these, and have expressed a preference for double-hung windows.<sup>9</sup>

#### 4. Lighting

As mentioned earlier, the decline with age of the various aspects of visual ability results in particular lighting demands. In order to compensate for this decline, generally higher levels of illumination are necessary. Some investigators have indicated that an aged person may require as much as three times the amount of light necessary for a younger person. This should be recognized in the lighting of public spaces and in the provision of adequate kinds and numbers of fixtures within the dwelling unit itself.

The conventional illumination levels which are recommended are somewhat low for the aged. Normally, for example, floor illumination levels are given at about 2 to 5 foot candles. For the aged, these levels and almost all others should be roughly doubled.

Advancing years also result in increasing difficulty in adapting to changes in brightness. This calls for both a relatively uniform distribution of light and careful selection of properly shielded light sources. As was also pointed out earlier, this decreasing ability to see is accompanied by increased reliance upon vision for the accomplishment of basic physical tasks. As a result, the aged require not only higher levels of illumination but also constant illumination, in the sense that they must always have light or they are, in effect, blind. This is the crux of the problem, now well recognized, of providing a sufficient number of properly located outlets, switches and fixtures to create paths of light. The aged cannot be expected to stumble around in a dark or dimly lit room groping for a light switch. The lighting system must be so arranged that a person can always, easily

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9. Ibid, p. 28.

and safely light the way ahead. This calls for careful analysis of every dwelling unit arrangement, not merely standard lighting layouts. What younger persons may regard as extreme convenience is, in the case of the aged, a necessity. In this connection, multiple-switched convenience outlets may be preferable to entrance-switched ceiling fixtures, since they offer many more switching opportunities. In the case of a bedroom, for example, a switched outlet would permit a person to put on the light before getting out of bed rather than having to stumble in darkness to the doorway.

The avoidance of ceiling fixtures is also highly desirable from the point of view of safety, since they necessitate climbing on chairs or ladders to change bulbs and clean fixtures. This would also spare the building management the bother and nuisance of having to attend to a large percentage of these chores.

It has also been suggested that all wall switches be in combination with convenience outlets so that "night-lights" could be employed to help locate switches. Another solution would be to use luminous switch plates.

In order to avoid unnecessary stooping and bending which are apt to bring on dizziness, all convenience outlets should be located at waist height. Two feet or three feet from the floor are the generally recommended heights.

In public spaces and outdoor areas, care should be taken not only to provide enough light but to see that the lights are turned on early enough in the evening.

## 5. Heating

Various physiological changes which occur with advancing age result in different requirements for comfort. Generally, the aged require a higher

temperature; approximately 80°F. Because the body can no longer adjust itself quickly to changes in temperature, the aged also require a relatively uniform distribution of heat and a freedom from drafts. If the aged are to be housed in buildings which also contain younger people, then individual thermostatic controls are necessary if everyone is to be comfortable. Another approach to mixed occupancy is to consider various supplementary heat sources which would permit the aged to raise their individual room temperatures as desired.

Careful attention must be paid to the location of heat sources and the location of the thermostat so as to maintain as uniform a temperature distribution as possible. The large window areas which are highly desirable from the standpoint of sunshine, light and view can also be troublesome from the standpoint of heat loss, unless special precautions are taken. In northern climates, consideration should be given to the use of double-glazing or storm windows, since the elderly are even more apt to spend their days at the window in winter, when they cannot be outdoors, than in summer.

It should also be noted that the aged suffer more readily from cold feet than younger people so that both warm floors and relatively high floor temperatures are desirable. This would seem to suggest that radiant floors might be an ideal solution. This, however, has proved not to be the case since it has been found that the temperatures are generally so high as to further aggravate the various difficulties the aged have with their legs due to impaired circulation.<sup>10</sup> The answer would seem rather to lie in the adequate insulation of the floors and the proper choice of flooring materials.

There is no evidence in the literature to suggest that any one heating system is more advantageous or desirable for the aged than any other.

There are, however, a number of points which should be considered in any

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10. Standards of Design: Housing for the Elderly, Op. cit., p. 17.

selection. The system should be quick acting, capable of being individually controlled and capable of being arranged so as to provide a uniform distribution of heat.

If steam or hot water systems are used, care should also be taken to avoid exposed sources, i.e., radiators and risers which could cause serious burns if an elderly person stumbled against one or reached for support as so often happens. Exposed radiators placed under windows are especially hazardous, particularly if they project very far into the room. Every operation involving the window, or the blind, places a person in an awkward and dangerous position with respect to both the radiator and the window.

#### 6. Sound Control

A certain measure of acoustic privacy is an accepted requirement for all housing. Dwelling units should, insofar as is practicable, be insulated from sources of excessive noise both within and without the building. These sources commonly include neighbors, public corridors, garbage chutes, elevators, heavily trafficked streets, and playgrounds. There is evidence, however, that the aged find excessive noise far more disturbing than do younger people. This appears to be particularly true with respect to immediate and recognizable sounds. Distant and impersonal noises are not as annoying and may actually be desirable in that they tend to be reassuring. It has been suggested that the former, however, may be linked to a feeling that their sense of privacy is being invaded. This is quite likely since the desire for privacy increases with age. There is a strong desire on the part of the aged to protect their sedentary preoccupations and to be assured of quiet during their nap periods and in the event of illnesses. It seems essential, therefore, that the walls and ceilings between apartments be constructed so as to minimize both direct impact noises and air-borne sounds.

This is desirable not only from the point of view of protecting the aged but also to protect younger neighbors, since, as was pointed out earlier, many of the aged have difficulty in hearing. As a result, many of them tend to generate excessive noises themselves through loud talking and radio playing.

It is interesting to note that in Great Britain considerably more emphasis is placed on sound control than is generally the case in this country. This is true of public housing in general, not only with respect to housing for the aged. They recommend, for example, that "the provision of floating floors should be treated as essential in all flat (apartment) building."<sup>11</sup> They also consider that from the standpoint of adequate sound control, the mass of five inches of concrete is essential for floors and seven inches of concrete is essential for party walls.<sup>12</sup> These recommendations provide for more than half again as much sound insulation as the construction details commonly used in public housing in this country, i.e., two-inch solid plaster partitions and tile flooring laid directly on concrete slabs. Privacy and freedom from disturbance may well, as they suggest, be more important contributions to "liveability" than some of the features emphasized in this country, particularly in the case of the elderly.

#### 7. Alarm and Communications Systems

It is generally recognized that many of the aged may have a need for various alarm and signalling devices, both to request help and to receive

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11. Craig, C. N. "Value for Money in Flats," Royal Society for Health Congress Proceedings (April, 1957), p. 68.

12. Craig, C.N. "Factors Affecting Economy in Multi-Story Flat Design," Journal of the Royal Institute of British Architects, v. 63 (April, 1956), p. 245.



warning. Because of the difficulty many elderly persons have in the bathroom, such as getting out of the tub, etc., it is generally thought desirable to provide some form of bell or buzzer by which they can summon aid. Most commonly, this bell or buzzer sounds in the adjacent apartment or in the management office. Another suggested location is in the bedroom near the bed.

In any building which is largely occupied by the aged, an automatic fire alarm system should be provided, both from the viewpoint of the delay involved in notifying everyone in event of an emergency and because of the personal habits of many of the elderly.

Irrespective of the system, or systems, which are used, it is well to bear in mind the hearing difficulties which many of the aged have. Because of their inability to hear high frequencies, it would be desirable to select a device which emitted a very low-pitched sound. In cases of total deafness, consideration should be given to the use of supplementary visual devices such as flashing lights.

Thought should also be given to the provision of one or more public telephone booths in each building or project, depending on the circumstances, since many of the aged cannot afford the expense of maintaining a personal telephone. These booths should be private, conveniently located and generous in dimension so as to facilitate their use by the elderly. In some situations it may also be necessary to provide a booth large enough to accommodate a wheelchair.

#### 8. Vertical Circulation

Vertical circulation is recognized as one of the major problems in designing for the aged. Stairs are particularly bothersome since the ascent is extremely energy-consuming and hard on an older person's heart, while the descent is dangerous from the viewpoint of balance and liability to

falls. It is generally agreed, therefore, that stairs should be avoided wherever possible. One flight is felt to be the maximum which the aged should be expected to climb, in those situations where there is no alternative. In any construction over two stories, elevators are generally considered a necessity. It should be noted in this connection that skip-floor arrangements are not particularly desirable because of the necessity of using stairs constantly.

In the case of two-story buildings, there appears to be an overwhelming preference on the part of the aged for the ground floor units. It is quite obvious that the aged would prefer to avoid stairs altogether even though they might presently be using them, since the fear of falling is always present. One housing agency has stated that, "while the older tenant initially may even choose to live on a second floor, inevitably his request for transfer to the first floor soon comes in. It has been our experience that the demand for ground floor accommodations is so great we cannot provide them except in extreme cases. Our files bulge with pleas for transfer supported by doctors' certificates. The worst of it is that our inability to meet this problem often results in the older person's becoming housebound, increasing his dependence, deepening his depression, and possibly shortening his life."<sup>13</sup>

When stairs are unavoidable, every precaution should be taken to make the stairs as safe as possible - both psychologically and physically. The Massachusetts report lists a number of the criteria which should be observed:

- "Risers less than seven inches high.
- Correct proportion of run to rise.
- Uniform height and run to rise ratio throughout buildings and grounds.
- No less than two risers except at exterior doors.

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13. Housing the Elderly, op. cit., p. 97.

No winders - stair treads shall be parallel and of equal width throughout.  
Light-colored risers.  
Top and bottom nosings to be white.  
Continuous handrails both sides.  
Correct handrail height.  
Sufficient head room for moving double beds.  
Abrasive tread and nosings.  
A very large amount of light, both day and night.  
No windows unreachable from stairs or landings.  
Not less than three feet three inches clear between handrails in private stairs.  
Adequate length in landings for the specific conditions.  
No circulation directly across the top of stairs."<sup>14</sup>

Other considerations should be the avoidance of long unbroken runs and the avoidance of stair designs which feature open risers or handrails that have a minimum of support. In this connection, it should be noted that normal exterior fire escapes are particularly terrifying and hazardous for the elderly. Interior fire stairs are far preferable.

Particular attention should also be paid to exterior stairs and stairs in lobbies and vestibules, since these quite often take on a monumental scale which can be dangerous because of the necessary change in riser and tread dimensions and the lack of intermediate handrails.

An alternative which is sometimes suggested for stairs is a ramp. Its usefulness, however, is generally limited to relatively small changes in level. In the case of full story heights, or more, ramps get inordinately long and tend to present more of a strain than do stairs. If, however, there is any possibility of wheelchairs being used, then ramps must obviously be used in place of stairs.

A number of precautions also need to be observed with respect to elevators. If self-operated, the elevator should be equipped with automatic doors and a signalling device to summon help in an emergency. A handrail is desirable and if the car is large enough, a small bench might

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14. Standards of Design: Housing for the Elderly, op. cit., p. 15.

also prove useful. The elevators should receive frequent inspection and maintenance to insure proper leveling of the car floor at all times. If there is a possibility of the elevator's being used by disabled persons in wheelchairs, then the control panel should be mounted low enough to permit those persons to reach it.

It may be well to again stress the point that many of the suggestions and recommendations contained herein, are by no means "special" or drastic. The great majority of them are conveniences, although not too commonly found, and are for the most part equally applicable and desirable for all persons -- regardless of age. As has also been pointed out, however, most of these conveniences become necessities when we consider the needs of the aged.

### C. SITE AND NEIGHBORHOOD

No consideration of housing is complete without taking into account various aspects of the site and the neighborhood. These give a frame of reference, a context, to what would otherwise be an abstraction. When speaking of housing for the aged, these considerations take on perhaps even a greater significance than normally, for, in the case of the aged, the neighborhood and the site are equally as important as the details of the dwelling unit itself. On the one hand, it might be said that while the dwelling unit must accommodate itself primarily to the various physiological requirements of the aged, only the proper selection of a neighborhood and a site can fully satisfy the psychological needs of the aged. The dwelling unit is impersonal and mechanical in its accommodation of daily living habits. The site and the neighborhood, on the other hand, are essentially social and personal. They lend life and meaning and make whole the reality of existence.

These considerations are, of course, essentially true for all persons, not just the aged. However, in the case of the aged, this psychological aspect is intensified because (1) the great bulk of the aged live alone; there is no regular social contact within the context of the dwelling unit itself, (2) their way of life, i.e., essentially retirement, precludes the normal range of daily social intercourse, and (3) their relatively restricted mobility prevents them from taking positive steps to rectify the situation thus created. If a normal household is defined as one which is made up of two or more related persons, it is obvious that the individuals have some social contact and interaction within the immediate confines of the dwelling unit itself. Younger people generally have ready, and often inescapable, access to a variety of social environments and contacts - at work, along the daily route of travel, shopping, at clubs, etc. Most of this normal contact is denied the aged person by virtue of his "retirement". From this point of view, retirement has application to more contexts than merely that of work, since the aged person has, by and large, retired from society as well. In addition, his limited mobility physically, results in a limited mobility socially. He cannot go far afield, as a younger person can, to seek companionship or diversion.

It is apparent, therefore, that the neighborhood has great significance for an aged person because it must in large measure compensate for the deficiencies in the person's individual circumstances. From the reverse point of view, the neighborhood is equally important. Due to the lack of mobility, the aged person lacks the primary defense of a younger person in escaping from an undesirable environment. This aspect is especially crucial because of the aged person's rigidity and general lack of adaptiveness to new circumstances or situations.

### 1. Neighborhood Criteria

If the premise is granted that the choice of a particular neighborhood is especially important to an aged person's comfort and happiness, the question arises as to what is a, or the most, desirable neighborhood. There is no established answer, and, indeed, this question has stirred up a considerable controversy over the years. Some have maintained that the aged would prefer to live off by themselves away from the hustle and bustle of active community life. This has variously been interpreted in terms of an isolated building, an isolated project, or an isolated community of the aged. An opposing school of thought, on the other hand, maintains that with some reservations and modifications the aged should be permitted to remain integrated within a normal community or neighborhood structure. This latter position has come to find increasing favor in more recent years and has, in fact, a growing body of experience to support it. It seems quite clear now, particularly in the light of some of the disastrous experiences with segregation in Europe, that the segregationist position stemmed largely from the misinterpretation of perfectly valid needs or desires. The desire of elderly people to escape noise and confusion was interpreted as a desire to escape from society entirely, and the expressed preference of the aged for the company of other older persons was interpreted as a preference for the society of aged persons exclusively.

If the concept of integration is accepted, then a desirable neighborhood for the elderly has many of the same characteristics as any desirable neighborhood. It should be basically residential in character, possess the normal range of essential community facilities such as clinics, libraries, parks, churches, etc.; it should have convenient public transportation, and should be removed from heavy industrial uses. In terms of the individual aged person, the ideal neighborhood is often the one in

which he has lived most of his life. In other instances, where the neighborhood has changed character over the years and where friends and acquaintances have moved away and where familiar shops have closed down, there is, of course, no such emotional bond. Although those agencies concerned with the housing and the welfare of the aged can scarcely be expected to give great attention to such individual circumstances, the point should not be overlooked in its general application. The development of a broad program and the selection of a particular site should give consideration to old established neighborhoods where many of the aged are likely to live and to have their roots.

From the point of view of the community itself, there are also a number of advantages to be gotten from continuing to accommodate the aged within well established neighborhoods. There are more existing facilities for the aged to make use of; there are a greater number of specialized facilities; there is generally better public transportation - all of which are factors that allow the aged person greater independence and self-assurance. Another highly important aspect, and one which is frequently overlooked, is the sympathy and help which is extended to the aged by friends and neighbors, young and old alike. One agency sums this up by saying...

"To isolate older people from established residential neighborhoods is to lose the financial and social benefit of neighborly help and kindness. Not only are these very real benefits lost - statistics indicate that anxiety about minor problems, and above all loneliness, contribute to many cases of mental breakdown. Isolation not only increases the burden of cost to the public, it increases the number and kinds of problems, and thus compounds that cost."<sup>1</sup>

At the present stage of development, the structure of most of our cities is such that these old neighborhoods tend to be more or less "downtown". This is not necessarily undesirable, for, as another agency points out...

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1. Standards of Design: Housing for the Elderly. Boston: Massachusetts State Housing Board, 1954, p. 13.

"Aside from other considerations, the older person seems to associate himself more easily with downtown area activities (which create a sense of being a part of the stream of life) than he does with those of a new outlying neighborhood.

"Social scientists agree generally that older persons do not desire suburban developments. Indeed it is a myth that even a majority of urbanites crave ever to tend a garden or enjoy the semi-rural life. Comfort, ease, and association with activity, are much more dominant desires. These social scientists cite the pattern followed by wealthy older persons who settle in comfortable downtown hotel suites rather than seek the quiet of "country-gentleman" life. Physical, mental, and social factors of the "aging process" seem to support this fact. Slowness or difficulty in "getting places" engenders the feeling of abandonment and loneliness, and creates a genuine resistance against being "put away" in the quiet beauties of suburban nature."<sup>2</sup>

Of course, not all aged persons will subscribe to this point of view.

There are those who would rather raise chickens and those who will seek the land of the sun. However, since the majority of the nation's aged population is urban, such a generalization is still highly useful.

## 2. Site Selection Criteria

With respect to the selection of an actual site itself, there are a number of detailed considerations which must be taken into account:

- 1) The topography should be as nearly level as possible to minimize the need for steep walks, ramps, or stairs. Relatively level sites would also do much to encourage walking - a highly desirable exercise.
- 2) The site should not be completely bounded on all sides by major traffic arteries. It should be possible for the aged to leave the site and go shopping or to the park, etc., without having to cross a major street or a major intersection each time.

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2. Housing the Elderly. San Antonio: San Antonio Housing Authority, 1957, p.13.



- 3) Essential commercial facilities should be close at hand and easily accessible - supermarkets, cleaners, laundries, shoe repair shops, drug stores, etc.
- 4) Basic community facilities such as churches, libraries, health services, recreation facilities, etc., should be close at hand. In this connection the half mile maximum walking radius of many of the aged should be borne in mind.

It should also be noted that, quite sensibly, most aged persons place greatest emphasis on the proximity of essential services and facilities such as shops. In one study, approximately 90 percent of the aged persons surveyed considered proximity to shops essential.<sup>3</sup> The other facilities desired were, in order: churches, approximately 65 percent; parks, 50 percent; social center, 37 percent; movies, 30 percent; and last, active recreation areas, 25 percent. It is interesting to note, also, that the preferences tended to change with age. Those persons in the age group 70 and over still ranked all the facilities in the same order, but the percent who cared decreased in each case except with reference to parks. This group expressed a greater preference for proximity to parks than any other age group.

- 5) Public transportation should be immediately available at the site, since many of the services which the aged require, such as specialized medical attention, will in all likelihood be located elsewhere. Transportation is also vital as a possible means to supplementing income through part-time work, to visiting distant relatives or friends, and generally to keeping alive a spirit of self-sufficiency.
- 6) In most instances, the site should not be immediately adjacent to a school building with its horde of active, noisy

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3. Scottish Housing Advisory Committee, Housing of Special Groups. Edinburgh: H.M.S.O., 1952, p. 70.

children. Playing fields and other active recreation areas used by teen-agers or adults can be similarly dangerous and annoying to the aged.

- 7) The site should be large enough to permit the development of adequate outdoor areas for both active and passive recreation. Ideally, these areas would be in addition to, and out of the way of, those areas used by other residents, particularly children.
- 8) Consideration should also be given to changes in the overall land use pattern, both in terms of probable trends and projected plans. This is a necessary precaution because of the heavy investment involved and the fact that changes which might appear tolerable in terms of a normal residential site might not necessarily be tolerable for a site largely, or even partly, occupied by the aged.

These are all considerations which must be taken into account whether the site is to accommodate solely aged persons or whether the aged represent only a portion of a larger "project" population.

### 3. Other Aspects of Site Development

One of the most important questions concerning the site again concerns the degree of isolation or integration of the aged which should take place. At this level of immediacy, however, the answer is not as clear cut as it was with respect to the neighborhood. There have been successful developments where the aged have had an entire building to themselves and also instances in which the aged have been scattered in small clusters; each has its advantages and disadvantages. In this connection, the Massachusetts report observed that...

"Older people dislike being segregated in large numbers. Experience elsewhere indicates that projects for the elderly can be too big. On the other hand, they can be too small. One goal for such housing is to provide a social unit which is large enough to allow a variety of friends and a large amount of self-help. At either extreme of project size these benefits are denied.

"Where the number of people is too small, certain individuals become isolated, their problems increase and must finally be solved with public or charitable help.

"In an extremely large project, physical and social distance from friends and friendly help in the immediate neighborhood is increased. Individual identities become lost in the sea of alien faces. Mental and emotional problems increase as give and take with the normal world is denied.

"Experience elsewhere indicates that projects of from 25 to 45 dwelling units are most successful. Seventy-five people is the desirable maximum. Within this range there is the possibility of a variety of friends. It is large enough to insure quick help in an emergency, and continuing help over a protracted or permanent illness. It is small enough so that the elderly, both for themselves and for their neighbors, can retain their personal identities. Their neighbors can distinguish them and do not feel overwhelmed by too many strange old faces."<sup>4</sup>

On the other hand, a larger concentration of aged people has the advantage of allowing the provision of greater supplementary services and facilities. A handful of aged persons probably cannot command more than the provision of special dwelling units. A substantial number of aged persons, however, can justify special recreation facilities, housekeeping services, counseling personnel, etc. It is difficult to draw the line between the numbers needed to warrant optimum accommodations and facilities and the point at which the numbers tend to cause a feeling of isolation and segregation.

Another aspect which needs to be considered is the degree of immediate integration which is to be achieved between the various age groups. The general feeling is that children tend to cause the aged the greatest con-

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4. Standards of Design: Housing for the Elderly, loc. cit.

cern and annoyance and that they should, therefore, be kept out of the immediate path of the aged. It has been stated, for example, that ... "Oldsters' complaints primarily involve children - their destructiveness, noise, thoughtlessness, and lack of sympathy for those who are ill or in need of rest."<sup>5</sup>

A survey in Great Britain revealed that 4 percent of the total aged sample (60 years of age and older) were unwilling to live next to younger people without children, and 20 percent were unwilling to live next to people with children. When asked about their preferences in terms of neighbors, 24 percent preferred persons their own age, 9 percent preferred younger people without children, and 67 percent didn't mind either. Interestingly enough, the group 70 years of age and older was more tolerant than the younger group; 84 percent "didn't mind either."<sup>6</sup>

It would seem, therefore, that the most satisfactory arrangement would be one in which both the aged and the children have their domains which insure their respective privacy. Children at play are absorbing to watch, but direct contact or participation can be both wearisome and irritating to the aged. It would seem natural that the contact between the extreme generations could best be carried out through a spectator-participant relationship.

A warning is in order, however. It would be natural enough from this discussion to conclude that the dwelling units of the aged look out upon playing children. Experience has shown that this is not altogether desirable. It is far better to require more than a glance out of a window to cause contact with the children, although it may be

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5. Housing the Elderly, op. cit., p. 27.

6. Scottish Housing Advisory Committee, op.cit., p. 69.

but visual. A more satisfactory solution is to have contacts between extreme generations take place in an area set aside for that purpose. In this way the aged person may have such contact only when it is his inclination.

The most desirable arrangement would appear to be one which permitted a gradual transition from highly private to highly public active areas. For example, the distant view might be of a playground or similar activity area, but in between would be a variety of private and quiet areas, perhaps a garden, outdoor sitting areas, walks, and so forth.

A similar gradation is desirable between the sequestered area of the dwelling unit and the general traffic on the outside. Although the activity of the outside is enjoyable to watch, many experts feel that a constant awareness of it would be an eventual intrusion of the privacy of the dwelling unit. Of course personal preferences are apt to vary greatly. Many persons enjoy day-long watching of activity with the added ability of inviting passers-by in. It might be well not to consider any principle as a shibboleth but rather to provide a variety of arrangements.

#### 4. Details of Site Development

In addition to these general considerations regarding neighbors and the overall disposition of the site, there are a number of other specific points which should receive attention.

- 1) Every building should have a convenient access to a drive or a street. The walk from a car or taxi should be short, direct and without steps. In the case of large buildings, a hotel type of arrangement with an entrance drive and a covered porte-cochere would be ideal.

- 2) In large developments, a separate service drive and entrance would also be desirable not only for deliveries, etc., but as an emergency entrance for an ambulance.
- 3) A certain amount of off-street parking should be provided for the aged. While the number of aged persons who drive cars is small, there are always a few who do - approximately 10 percent.
- 4) Depending on the character of the development, certain outdoor service facilities may have to be provided, such as drying yards, incinerators, etc. These should be frequently and conveniently located and properly shielded.
- 5) Great care should be taken in the proper location and arrangement of outdoor sitting or recreation areas. The Massachusetts study summarizes the criteria for these as follows:

"The desirability of fostering social contacts among the elderly suggests that outdoor sitting areas and project circulation be interwoven. Sitting areas should be on the circulation in order to make them more interesting places in which to while away the time. Such areas also afford the opportunity to put down a bundle, rest, or chat with friends.

"Sitting areas should not be directly on the street. No one likes to be put on display. They must be in sunny locations, protected from prevailing and project-created winds. They should be small. Shade trees can protect them from the hot summer sun. If while being removed from the stares of strangers, such areas also can be planned to offer interesting views, of a street from a distance, or of many front doors, an ideal situation will have been created."<sup>7</sup>

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<sup>7</sup> Standards of Design: Housing for the Elderly, op. cit., p. 11.

## III

CONCLUSIONS

The most significant conclusion which can be drawn from this report is that support has been found for two seemingly opposite points of view. One school of thought maintains that there is essentially no difference between the aged and younger persons and that therefore there is essentially "no difference between a house designed for a sexagenarian and one designed for his grandson." The other school of thought maintains equally steadfastly that the aged are a special group requiring special housing accommodations. Within limits, both of these positions are equally valid.

Although the point has not been specifically made, it is readily apparent that many of the "special" provisions discussed in this report are, in essence, nothing more than sound principles of good design and planning which are applicable to all housing. It is obvious, as has so often been maintained, that non-slip floors, well-lighted stairs, the proper location of electrical outlets and switches, sunny rooms, safe and convenient bathrooms and kitchens, all are equally desirable for the younger family and the aged person living alone. The same applies to many of the criteria for space planning: furnishable room arrangements; direct, convenient relationships between spaces; adequate provisions for privacy; proper orientation, etc. This is also true of a number of basic site and neighborhood considerations: the avoidance of smoke, noise, heavy traffic, the desirability of conveniently located community facilities.

The great bulk of these requirements for the aged are simply conveniences or matters of basic safety desirable for all persons. It is also apparent, of course, that the reason these "universal" criteria

remain in the forefront of thinking regarding the housing accommodations of the aged is that they are so rarely observed and applied. Indeed, grappling with the problems of the aged might one day bring us to the realization of how much we have penalized ourselves and how shortsighted our entire outlook on housing and design requirements has been.

On the other hand, all of the aged do not have the health and vigor of their youth. At some point - and the specific age point has not been determined for any particular group or segment, if there is such a point - they begin to have less physical strength, their hearing, vision and sense of smell gradually become impaired, their sense of balance falters. They also have more serious illnesses and for longer periods of time - arthritis, rheumatism, nephritis, high blood pressure, heart troubles, respiratory diseases, etc. In terms of degree, the aged are just as different among themselves as the aged as a group are different from younger groups in the population. Many persons at the age of 65 or even older can live quite comfortably without any of these special accommodations. At some point, however, the ravages of time will cause some aged persons to require the full range of these special provisions and considerations. Obviously, in any overall program, a wide variety of accommodations will need to be provided.

It is when this stage of inability or disability is reached, at whatever age it may be, that the "special" design provisions which have been discussed in this study become appropriate and necessary. In terms of compactness, heat, ventilation, light levels, call bells, and supplementary facilities, as well as many of the other items discussed, the aged person's requirements differ from those of the younger groups. In fact, some of these special requirements which the aged have are quite apt, not only to be completely unnecessary for a younger person but, in some



instances, undesirable. A prime example of this is the aged's requirement for about 80°F. heat, which most younger persons would find intolerable. These differences are perhaps even more pronounced with respect to site and neighborhood considerations; younger people, for example, generally prefer locations which are close to schools and playgrounds; many also go to great lengths to escape from "the mainstream of life." What may be an absorbing view of street traffic to an older person may well be simply a noisy and undesirable view of a busy street to a younger person. Most younger people welcome the opportunity to experience new locations, new neighborhoods and new faces. The contrasts which can be drawn between the requirements of the young and the old are almost endless.

Although this report can serve to point up and clarify the design and planning requirements of the aged, it is obvious at the same time that much exploring and experimenting still remain to be done. This is particularly apparent when it is considered that so many of the accepted requirements for the aged are nothing more or less than sound basic criteria for all housing. Yet it is known that in many respects the aged are significantly different from younger persons and that these differences can and should be reflected in special design and planning criteria. It is in this area that much fundamental research still needs to be done. This report, accordingly, should be regarded as basically an interim working document rather than a final set of design guides or criteria for the housing of this important segment of our population.

A P P E N D I X I

CLASSIFIED ANNOTATED BIBLIOGRAPHY

A. GENERAL

American Public Health Association, Inc., Committee on the Hygiene of Housing. Housing an Aging Population. New York: American Public Health Association, 92 pp. Biblio.

The housing problem of the aged is centered on those without sufficient income who are able-bodied or who require some domestic assistance -- the low-income, non-homeowning members of the age group. There is no neat all-inclusive plan for the solution. The increase in the number of aged, plus the aging of the general population, results in longer periods of retirement with attendant economic difficulties, more chronic diseases, further sex disproportion, and more individual households and small families headed by older people. All these changes pose continuing financial, medical, social and housing problems. Generally, older people seem to prefer living in their own way and appear to be physically and emotionally healthier in their own homes. Old age is a period of readjustment for most persons. The final solution of housing for the aged is implicit in the improvement of housing in general. The special design features of housing for the aged are discussed: the basic essentials for all dwellings, noise control standards, heat requirements, heights of appliances, lighting, floor surfaces, stairs, bathrooms. A section on European housing for the aged has to do with special housing projects.

American Public Welfare Association, "How Public Welfare Serves Aging People," A series of reports from Public Welfare Dept., Chicago, 1954, 1955.

A series of pamphlets covering, to date, the range of public welfare services to older people, helping older people who have been in mental hospitals, developing clubs for older people, day centers for older people, mobilizing community resources, homemaker services for older people, friendly visitors. Only indirectly pertinent to housing.

Beard, B.B., "Are the Aged Ex-Family?" Social Forces XXVII (March 1949), pp. 274-279.

A survey of 20 texts by outstanding sociologists on books used widely as college texts: 8 have no references on old age or aged, 2 contain brief mention of problems of older people in paragraphs dealing with other subjects, 6 have less than one page, and 4 have from 1 to 4 pages on the aged and their problems. Conclusions: 1) By definition, some writers exclude the aged from the study of the family; where included, little attention is given to them. 2) Care of the aged seldom is listed as a function of the family. 3) Older people are seldom considered positive, contributing members of family life, but are usually spoken of as members. 4) Position is often taken that family should not be burdened with the responsibility for the aged. 5) Although sociologists recognize that the number of aged are rapidly increasing and that the aged get their chief satisfactions through the family, they also note a tendency for the distance between young and old to increase with the younger feeling less responsibility for the aged. There is little mention, in the textbooks examined, of the basic conflicts between the expectations and wishes of older people and the social attitudes and social patterns relating to the aged. 6) Though there is considerable mention of problems arising from old age, there

is little or no mention of the education or social changes necessary to prevent these problems. 7) Statements about the aged seem to be based on personal observation or experience. References to research studies are noticeably lacking.

Beyer, Glenn H. Housing: A Factual Analysis. New York: The Macmillan Co., 1958. pp. 17-20, 55-56, Appendix pp. 299-303.

The growing concern over the problem of housing for the aged is justified by the statistics, which show this is becoming a constantly more important population group, numerically and percentage-wise. It is estimated, on the basis of U.S. Census projections, that the group will increase 570 percent in 1975 over 1900. The highest percentage of these persons today are persons living in their own households (almost 70 percent of their total). These families generally have low incomes and a low asset position. Yet, the proportion owning their own homes is appreciably higher than for the population as a whole and the average value of the houses is less than the average for all families in the nation.

"Buildings for the Aged," Architectural Record, CXVI (September 1954). "New Programs, New Buildings for the Aged." pp. 186-192.

Eight theorems concerning programs and buildings for the aged: 1) Plan facilities for health and activity as well as retirement - L.A. Scheele. (No single, all-purpose institution can meet all the needs of aging patients - a network of homes, rehabilitation centers and home care programs is better. It is necessary to be prepared to deal with the individually varied and chronically changing physical and mental problems of the aged.) 2) Ambulant old people belong in their own homes - Edna Nicholson. (Every individual, regardless of age, should live a normal, useful life in the community as long as he is physically and mentally able to do so. This is the way people prefer to live. The individual needs shelter in an institution only when he no longer can hold his own in normal community living and care for himself without assistance.) 3) Extension services would make home care feasible - Dean W. Roberts. (Provide supportive services for families with oldsters and invalids to care for in the home.) 4) Homes for the aged need medical facilities - Edna Nicholson. (Modern homes for the aged must have good medical supervision and good nursing supervision. No home for the aged can be considered adequate unless it has an active health protection program and good facilities for providing medical attention and nursing care.) 4) - continued - Carl A. Erikson. (Nothing on housing.) 5) Nursing homes should be "medically related" - L.A. Scheele. (Nothing on housing.) 6) Rehabilitation facilities are important to the program - Dean W. Roberts and Oleta Culp Hobby. (Nothing on housing.) 7) Recreation facilities are also necessary. (Nothing on housing.) 8) Hospitals, both general and chronic, have vital roles in care of aged - D. W. Roberts. (Nothing on housing.)

Churchill, Henry S. Some Random Thoughts on Housing for the Aged. A paper presented before the Second Annual Southern Conference on Gerontology (Gainesville, Fla.), Jan. 25, 1952. Mimeo. (Also in Living in the Later Years, T. Lynn Smith (ed.), University of Florida Institute of Gerontology, Vol. 2, Gainesville: University of Florida Press, 1952, pp. 30-49.)

The three parts of the housing picture portrayed are (1) technical, (2) economic, and (3) social. Items specified as good housing for the aged

are equally desirable for any age group. If there were enough decent housing at prices or rents that could be afforded, enough housing in variety would exist for all to have a choice. Housing cannot be separated from the total housing problem or from basic social attitudes.

Dean, J.P. "Public Housing for the Aged," Journal of Housing, III (September, 1946) pp. 203-204. Paper delivered at the National Conference of Social Work, May 22, 1946.

The kind of public housing accommodations that might best be built for aged individuals is not easy to determine: dormitories? individual rooms? FPHA is going to have its technical staff study this question (1946). The question of how far public housing should go in providing housing accommodations for families who need special care is raised. A nine-point tentative policy is proposed in answer. Housing should be more than shelter; opportunity is presented to stimulate the aged to wider participation in community living. Housing agencies should cooperate with social agencies to provide special recreation services, health centers, and cafeterias.

Donahue, W. and Tibbitts, C. (ed.). Growing in the Older Years. Ann Arbor: University of Michigan Press, 1951, 204 pp.

A series of articles on aspects of aging: mental health, emotional needs, psychiatric techniques of treatment, community health services, control of degenerative disease, physical restoration, education and old age, group development. A mid-century forecast by Donahue is the final article.

Farmer, L. "Old People," Harper's CCIII (December, 1951), pp. 79-82.

The difficulties of being admitted to an old people's home, the cost of care and the daily frustration of aged who live in dark, ugly, private rooms are underscored in this indictment of society's treatment of older people.

Frazier, Mrs. Landell. "Kansas Tackles Its Nursing Problem," Aging (November, 1953), pp. 1-2.

Kansas moved to improve nursing home service with seminars and institutes for operators.

Hunter, W.W. and Maurice, H. Older People Tell Their Story. Ann Arbor: University of Michigan, Institute for Human Adjustment, Division of Gerontology, 1953, 99 pp.

A general lack of interest was shown in any type of communal housing, in a survey of 151 persons over 65 years of age in Grand Rapids, Michigan. Half of the sample expressed some dissatisfaction with their present living arrangements and one quarter of them wished to change their housing. Nevertheless, none of the older persons voiced a desire to move into a home for the aged or other type of congregate living facility. Nor did they desire to move in with their son or daughter. Of special interest is Appendix C, the interviewing schedule.

Jacobs, J. "Housing for the Independent Aged," Architectural Forum, CIX (August 1958), pp. 86-91. Plans.

How well the independent aged get along is influenced by four factors: 1) how their housing is designed, 2) how well it fills the most obvious gaps in the current supply, 3) where it is located, and 4) what services are knit in with it. The elderly cling to their independence, but this independence is often illusory and always precarious as there comes a time when outside help is needed. Special design features such as railings, non-skid floors, and single level construction enable the elderly to maintain independent living. However, these protective devices should not be overemphasized to remind the aged unduly that they are old. There are three major gaps in the supply of housing for the aged: 1) there are not enough well-located, small houses available for purchase by those whose present homes are burdensome, 2) there is not enough suitable rental housing close to town with at least some helpful services included, and 3) there is not enough public housing designed especially for the elderly. Housing for the aged should be located in a normal community close to everyday facilities. In a housing project, the mixture of the aged with families having children requires careful planning. Children should be in the projects, but not close to the older persons. The question concerning what services to provide, and the number of elderly households that can be grouped together, requires more study before the answer will be found.

Kraus, Mertha. "Housing Our Older Citizens," Annals of the American Academy of Political and Social Science, CCLXXIX (Jan., 1952), pp. 126-138.

Though older people today have more cash income through social security, pensions, and OAA than formerly, they are still restricted in choice of dwelling unit. Limited purchasing power is a primary factor influencing choice of living arrangements for older people. Factors in Unsatisfactory Housing: Severe family tensions, environmental hazards, inaccessibility to friends, relatives, high housing costs. Community Response: 1 Attempts at modernization and expansion of various institutional facilities. 2. Extension of diversified services into homes of aged persons or into the neighborhood. 3. Fact-finding and exploratory studies, workshops, conferences and programmatic statements on better housing. Least attention is being given to improving and increasing the actual supply of low- and medium-cost dwelling units for those who wish to live outside of institutions and also to be independent of their own families. Adequate housing for the aged must develop at crossroads of two important programs: better housing in better neighborhoods within the reach of all income groups, and more adequate services to meet the peculiar needs of a large and growing senior consuming group. Planned environment is a basic requirement of adequate housing for the aged. Experimental housing units for the aged should be studied for live research in controlled environments could yield concrete answers to many questions.

Kutner, B., et al. Five Hundred over Sixty. New York: Russell Sage Foundation, 1956, 345 pp. Biblio.

This is a research report of the problems and the needs of individuals over 60 years of age living in the Kips Bay-Yorkville district of New York City. The individuals were studied to determine their personal adjustment with

regard to marital status, employment, moral activity and isolation. Also reported was the health status of the individuals, their use of community health resources and their attitudes toward the use of these facilities. A proportionately high percentage of these families were found living in substandard accommodations. The types of housing represented included tenement "walk-ups", cold-water flats, railroad type apartments, and apartments with no inside toilet facilities. It was found that many recipients of Old Age Assistance or Old Age and Survivors' Insurance were compelled to live in furnished rooms that had a negative effect, especially after apartment living. When older persons change their residence, they often need to leave old friends and familiar surroundings. Social isolation is often the result since new friends are not easily acquired at this stage. However, the real consequences of social isolation are not too well known yet. Ramifications are believed to include poor health, maladjustments, psychological resultants, and certain kinds of response to social and health advice. (Social isolation should not be confused with residential isolation, since one may live in a busy apartment house and still be socially isolated.) The number of single aged persons of low income and of couples unable to obtain suitable apartments requires expansion of public housing facilities. In New York City there are many good homes for the aged sponsored by private and public agencies. There is a wide range of professional assistance in these homes ranging from complete medical, social rehabilitation and recreational services to merely custodial care. Many homes accept only the physically ill or individuals with emotional problems. However, there are more people desiring admission to homes for the aged than can be accepted. For the aged living in substandard accommodations in New York City, there is a need for the City Department of Buildings and Housing to insure that the facilities are kept at least to minimum standards. Two new types of services, a housing bureau and a diagnostic service to aid persons to make decisions on suitable housing arrangements, are recommended.

Mitchell, W.C. "Kiwanis Objective 6: Expand Opportunities for Senior Citizens," Aging (April, 1958), pp. 1-2.

Kiwanis International is gearing its service program to the needs of senior citizens. Several Kiwanis clubs in Canada have created housing projects for the elderly, as has the club in Sarasota, Florida. Local programs also include efforts in other fields on behalf of senior citizens: employment, golden age social clubs, civic participation.

Newsletter of the Gerontological Society, IV (Sept., 1957).

Contains articles on society activities, "The World of Aging" (general), Economic security of older persons, Speech problems, Hormones, and The Oxford Geriatric Unit which has listing of recent books on aging.

"People and Places." National Real Estate and Building Journal, LIX (June, 1958), p. 11.

Report on session on "Housing Our Senior Citizens" held at the National Housing Center. Solution to housing needs of elderly lies not in old people's homes, crowding in an in-law's home, or mass migration to the sunny south or golden west. Some of the aged in poor health need institutional care, some with small incomes must live with relatives. Surveys have shown that the vast majority of elderly people prefer to remain in

their home communities and in their own homes. Home builders should direct their construction efforts to those of this group that have incomes large enough to purchase or rent privately built homes.

Pouder, Margaret. "Planning and Older People," Tennessee Planner, X (Feb., 1950), pp. 113-122.

The population is getting older all the time. More people are living to be 65 and over. Problems faced by older people are economic, employment, health, housing, recreation, and mental health. Housing for the aged is a problem arising from the economic and employment problem. Some solutions are: moving older people in with children or other relatives, moving them to homes or institutions for the aged, sending them to boarding homes or to special housing projects, or allowing the aged to stay in their own homes by providing a visiting housekeeper service. Planners should consider the aging population in overall planning.

Randall, O. A. "Living Arrangements to Meet the Needs of Older People," Donahue, W. and Tibbitts, C. (eds.), Planning the Older Years, Ann Arbor: University of Michigan Press, 1940, pp. 31-59.

Practically nothing has been done in providing housing for older people compared with present need and future demand. It must be realized that the aged are individuals with varied needs and desires. This means that there is no single plan or living arrangement suitable for a person just because he is old. Some of the variables are personal choice and psychological, economic, social and health requirements.

Recommendations Made at Public Hearings on Aging, Nov.-Dec. 1956, Held by the State of Michigan Legislative Advisory Committee on Problems of the Aging (Ann Arbor), April 15, 1957, 16 pp. Mimeo.

Contains a summary of the recommendations made at public hearings in Lansing, Detroit, and Marquette on these categories: Employment, Housing, Health, Health Insurance, Mental Health, Home Nursing and other Services, County Facilities, Chronic Illness, other Recommendations, other Areas. There are twenty-eight recommendations made in the field of housing. Eleven of these concern action that the state should take: establish building code, establish zoning and building regulations, use state lands for building sites, set up pilot projects, explore use of pension funds for financing, create a State Housing Authority and a State Authority on Problems of the Aging. Some of the more important recommendations deal with community integration of housing for older persons, public housing projects, federal assistance, private housing, and the "campus" type housing approach.

Report of The First Governor's Conference on Aging, State of Minnesota, November 26-27, 1956, 45 pp.

The criteria to be considered in planning housing for the aging are: 1) People - their ways, environment, patterns of life, activities, and certain concepts. 2) Social, mental and physical aspects - condition and reaction of individuals to such things. 3) Space - the four walls and what is in them. 4) Cost. 5) Ability of people to take care of themselves. 6) Community requirements. Until some information is available on these various parts of the problem, no solution is possible.



"Report of the Subcommittee on Housing for the Aging." Welfare Council of Metropolitan, Los Angeles, Family and Adult Services Division, 1950, 12 pp.

The problem of housing for the aging is interrelated with problems of economic security, health and emotional security.

Shock, N. W. A Classified Bibliography of Gerontology and Geriatrics. Stanford University Press, Stanford, California, 1957, 525 pp.

A bibliography selected from American and foreign journals and publications on many different subjects pertaining to gerontology and geriatrics, including communities and homes for the aged and some standards.

Steinle, John G. and Associates. Home Care and the Housing Needs of the Aged, New York State Program in Housing. New York State Division of Housing, 1958, 56 pp. Biblio.

Chronic illness of the aged is the nation's number one health problem. The most commonly provided special construction features in housing for the aged are: 1) Orientation to provide sunshine, ventilation, and a pleasant view. Located in a quiet area set back from the street. 2) Ground level units. 3) Materials selected to reduce fire hazards and sprinkler and alarm systems more generously provided than other types of housing units. 4) Increased general illumination--reduced glare from large window surfaces. 5) Guard rails near windows. 6) Crank operation to simplify opening of windows. 7) Walls impervious to sound. 8) Use of electric rather than gas stoves. 9) Minimum kitchen floor space--cabinets recessed and low. 10) Floors smooth but non-slippery. No thresholds, low risers - not ramps. 11) Grab and hand rails in public areas and bath. 12) Wide doors and corridors. 13) Elevator mechanisms which are slow and equipped with doors that open with a light touch. Slow, smooth-speed, quiet operation of elevators. Special facilities for the aged needed: 5.2 to 7.9 percent of aged are bed or wheelchair cases. 26 percent are limited-activity ambulatory cases. 65 to 68 percent ambulatory. Applying the 26 percent to the estimated 234,000 single persons (New York State population over 65 in 1957) and 177,000 couples, the following estimate of need for housing units with special community resources for supplemental and medical care results: 60,840 single units and 46,000 double units. "The most frequent combination of problems was that of health problems requiring specialized care which, in turn, involved some adjustment in living arrangements." (Report of Welfare Council of New York City on 4,007 problems mentioned in the case histories of 1,935 aged clients of the Welfare Council of New York City.) Recommendations: There is a direct relationship between the need for hospital care and the adequacy of housing for the aged. A study of patients over 65 in six general hospitals in New York City indicates that only 28 percent of these patients had housing which met their specific needs. One out of five patients over 65 in these hospitals could be discharged if adequate institutional or home facilities were available. 1) That a pilot program providing housing and supplemental facilities for the aged be undertaken; 2) that continuous evaluation be made of the operations and effectiveness of the pilot projects after their completion; 3) that consideration be given to other related housing programs; 4) that coordinating studies be undertaken. (For specific proposals under each of these four points, see pages 51-56 of report. Many details given under each point.)

**"The Whys and Wherefores of Housing for the Elderly." Remarks by E. Everett Ashley, III, at the 2nd Annual Conference-Workshop on Aging (Lafayette, Indiana), September 30, 1957, 21 pp. Mimeo.**

The housing needs of the elderly are becoming more noticeable because there are more older people today. Another factor has been the changes in the way of living in the United States in the past 50 years -- more and more a nation of city dwellers: houses are too small to take care of older parents. Social Security means older people can demand suitable accommodations outside the family. Home ownership is becoming a burden to older group, as large houses are difficult to take care of. A greater proportion of older people live in substandard houses than do the younger folks. Here is a group of small households - 1- and 2-person groups - with far less than the average income, many with disabilities, setting specific limitations on the type and location of living quarters which would be suitable. The Housing Act of 1956 has three main provisions: 1) Facilitates purchase of housing by older persons. 2) Facilitates the financing of rental housing projects designed specifically for the elderly. 3) Makes public low-rent housing more readily available to older persons. Other remarks on "Aids to Single Family Home Purchases," "Aids for Private Non-profit Rental Housing for the Elderly," "FNMA Special Assistance for Housing for the Elderly," "Public Low-Rent Housing for the Elderly," "Administration of the New Programs," and "Need for Local Initiative."

**Webber, I.L. "Florida: Moving Toward a Brighter Future for Its Aged," Aging, No. 41 (March, 1958), pp. 1-2, 8.**

A summary of the various programs under way in Florida for aged people: employment, public welfare, health, education, recreation, and housing. Many state and local government agencies, non-profit agencies, and educational institutions are cooperating in programs.

IV. ECONOMICS AND LEGISLATIVE PROGRAMS

Abrams, Albert J. "New Patterns of State Action for the Aging," State Government (Sept., 1951), pp. 233-237.

The New York State Joint Legislative Committee relates the total cost of the aged to the states, due to lack of social concern. Standards are proposed for judging policies, programs, and legislation for the aged.

"Apartment for Teachers," Newsweek (May 26, 1952), p. 86.

A project by the Omaha Education Association conceived by Frank C. Heinisch, OEA Executive Secretary. It is located in a pleasant residential section with convenient transportation and a good shopping center only a block away. Of the total cost of \$833,000, \$595,200 was furnished by FHA on a 40-year mortgage; the rest was raised by members of the non-profit corporation. Each member has one vote and a 99-year lease. Most of the apartments cost \$10,000 and require a down payment of \$2,700 and monthly payments of about \$72 to cover interest, principal, operating reserves, and other costs.

Ashley, E. Everett, III. "Housing for the Elderly," Construction Review, IV (March, 1958), pp. 4-11.

Most of the report is a detailed report of governmental work in the field of housing for the aged. The latest figures show that the Housing Act of 1956 has stimulated both non-profit and public low-rental construction. At the close of 1957, the FHA had applications for mortgage insurance on 17 projects in 12 states for non-profit rental housing construction, and it is reported that there were 110 other projects in the pre-application phase involving over 100 million dollars in mortgage insurance and providing accommodations for possibly as many as 16,000 to 18,000 elderly families. There are 62 projects which will have 4,610 units specifically set aside for older people among the public low-rental housing projects. Another 11 projects of this type involving nearly 2,300 units are being planned. In some 48 localities in 23 states federally-aided low-rent housing for the elderly is either under construction or in the planning stage. The preface reviews briefly the interest in recent years in housing for the aged and presents a table showing population statistics projected to 1975 from 1900. Title headings for the remainder of the report are Housing and Economic Status of the Elderly, Special Governmental Programs, Aids to Single-Family Home Purchases, Aids for Private Non-Profit Rental Housing, FNMA Special Assistance for Housing, Public Low-Rent Housing, and a Summary of Progress.

Ashley, E. Everett, III. "Where and How Older People Live Today," Donahue, Wilma (ed.), Housing the Aging. Ann Arbor: University of Michigan Press, 1954, pp. 13-29. See section III.

"A Study of Home Conditions and Needs of Older Persons Residing in Public Housing," June, 1955. The City of New York: Mayor's Advisory Committee. A study conducted in Vlodech Homes, NYC of 200 households, 110 couples, 90 unattached persons.

Sixty percent of families or individuals had major unmet needs for service. The majority of families maintained themselves on minimum budgets, some-

times below a public assistance standard. Only 30 percent reported no symptoms of disease or disability. The study was not considered typical of the entire community, nor even to represent a cross-section of all older persons living in public housing in New York City.

"Better Living for Elder-Agers," Public Affairs Department, Margaret Hickey (ed. Ladies Home Journal, LXXIV (June, 1957), p. 23.

A journalistic report of life at Carey Courts, a 24-unit project for the aged. The Waltham Housing Authority of Waltham, Massachusetts. The city borrowed \$180,000, the cost of the project, the state pays the 2.5 percent annual interest on the loan. The principal is to be paid back from rents over a forty year period. White Sands, a new project of the Southern California Presbyterian Homes Corporation, is planned for the above-average income group of the aged. Life occupancy payments start at \$7,500 with a pay-as-you-go life-care fee of \$175 a month for each resident.

Brightening the Senior Years. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1957), No. 81, 135 pp. See section III.

"California Presbyterians Plan New Home," Aging, (May, 1958), pp.2-3.

Construction will soon begin on a single, integrated, large unit to house some 200 residents. Entrance fee (\$5900 up) covers lifetime residency and use of facilities. Life Care fee (165 per month) covers meals, basic room upkeep, full medical care, and utilities. Single rooms, semi-suites, and two-unit combinations will be available. FHA and FNMA are participating in the financial arrangements.

Cole, A. M. "What the Aged Need in Their Homes," New York Times Magazine, (Aug. 4, 1957), pp. 11, 20, 23. See section V.

"Committee Findings and Recommendations," Growing with the Years. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1957), No. 81, 159 pp. See section V.

New Channels for Golden Years. "Committee Findings and Recommendations," New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1956) No. 33, pp. 5-40.

Housing for the aged must be geared not only to an amazing variety of circumstances of the aged but also to the amazing variety of income groups in this segment of the population. Housing must accord with the fact that nearly 3/4 of Americans over 65 have no income of their own or have less than \$1000 income per year. On the other hand, stocks are purchased or held largely by older age groups.

Corson, J.J. and McConnell, J.W. Economic Needs of Older People. New York: The Twentieth Century Fund, 1956, 530 pp.

This book is based on research findings from a mailed survey of 18 questions that was sent to pensioners and is included complete in Appendix 1. The central need of older persons is continuing income. The sources of income available to the aged are examined in the light of the economic needs of the aged and of the national economy. Statistics on the income of the aged and the housing conditions of the aged are shown to have a direct relationship.

Cowles, M. L. "Housing and Associated Problems of the Rural-Farm Aged Population in Two Wisconsin Counties," *Rural Sociology*, XXV, (September-December, 1956), pp. 239-248.

Interviews with 429 rural-farm aged persons are reported in two Wisconsin counties. Statistics on types of household: 69.4 percent of men living with wife, 52.5 percent of women living with husband; 37 percent living with children. The older the person the more likely he was to be living with a child or children. Data were obtained on: space used; whether house was equipped with running water, flush toilet and central heat; condition of stairs and their use; storage facilities for clothing and personal items. Space used: The older the person, the more noticeable the tendency to use smaller portions of the house. Utilities: Less than half the dwelling units had running water, flush toilets or central heat. In general, the older the person, the less frequently were these conveniences present. Stairs: Although nearly 88 percent of the dwellings contained a second floor, and 95 percent had basements, nearly one half of stairs to second floor and over one fourth of basement stairs were not used by the aged. Outside stairs were of importance particularly where there were outside toilet facilities. Storage space in the form of closets available for the use of the aged persons were conspicuously lacking. Often older people, especially those living with children, had no place to store small personal articles. Associated problems of the aged: health, financial insecurity, use of time.

Donahue, W. and Ashley, E. Everett, III. Housing and the Social Health of Older People, 16 pp (n.d.). Mimeo. See section III.

Donahue, Wilma, and Tibbitts, Clark (eds.). New Frontiers for the Aged. Ann Arbor: University of Michigan Press, 1957, 209 pp.

This is a series of readings written by experts bringing up to date all the information in the various fields represented. The chapter with special relevance to housing is in the section by Burgess dealing with the living arrangements of elderly people. He reports that only 3.3 percent of the older couples live in homes where an adult child is head. On the other hand, seven times as many couples (22.6 percent) are living in homes where an aging parent is head. Also a much larger proportion of females than of males are widowed, single, divorced or separated, and living with their children. A third fact is that nearly double the proportion of older persons who are widowed, single, divorced or separated are living in homes where the adult child is head as where the aged parent is the head. Three times as high a proportion of women as of men are living with their children. The proportion of mothers to fathers living with their adult children is three to one. Many three-generation families result from the mother moving into the married daughter's home. Conclusion: It is evident that from the standpoint of each generation living its own life, residing together in a three-generation household will not be, on the average, the best dwelling arrangement. Living independently but relatively near each other seemed to be the optimum situation for the majority of cases

Drake, J. T. The Aged In American Society, New York: Ronald Press Co., 1958, 400 pp. Biblio.

This book is primarily based upon statistics prepared by the Bureau of the Census. The concentration is with the economic aspect of the problem of aging. Two of the five parts comprising the book's major division deal with employment, retirement and various assistance programs. Part I is concerned with a rural-urban breakdown of problems of the aging and with the demography of aging. Part IV deals with the physiology and with the psycho-social aspects of aging. Part V includes a chapter on recreation and education, a concluding chapter on American Society and the Aged, and a separate chapter on Homes for the Aged. Most pertinent housing information is found in the last mentioned chapter. General statements in summary of this chapter: Majority of the aged live in households either alone or with spouse or other relatives. Primary difficulty in housing for the aged is the economic problem - the poverty of the aged is more of a problem than their age. Efforts are being made to establish standards in all the so-called "sheltered-care" homes - innumerable places fall far short of furnishing decent housing and care. The best housing for the aged in institutions is that established by philanthropic organizations, lodges, unions and religious bodies. Admission requirements, however, tend to be strict and the amount of monthly rent or down payment would be prohibitive for most of the older people of this country.

Dublin, L. I. "Problems of an Aging Population - Setting the Stage," American Public Health, XXXVII (February, 1947), pp. 152-155.

Statistical presentation of changing age structure of U.S. and the health problems attendant thereto, with mention of diseases of old age. It is the opportunity and duty of the public health profession to prepare itself to prevent and care for the disorders which afflict the middle and older years of life.

Epstein, L.A. "Economic Resources of Persons Aged 65 and Over," Social Security Bulletin, XVIII (June, 1955), pp. 3-19, 32-33.

A statistical analysis of: money income, social insurance and related benefit payments, earned income, asset income, personal gifts and contributions, estimated distribution of aggregate money income, non-money income, home-produced food, home ownership, goods and services from relatives and employers, assets, asset holdings, dissavings. Ownership of homes is much more common among persons aged 65 and over than among younger persons. The housing conditions of aged owners, however, are generally worse, as they own less valuable structures, than the average nonfarm population as a whole. In 1951 almost three fourths of the couples with aged head and almost two fifths of aged non-married persons not in institutions owned their homes.

Facts for Housing the Aging. University of Michigan Fifth Annual Conference on Aging, July 24-26, 1952 (Ann Arbor, Michigan), 39 pp.

A handbook of statistical information about older people and their living arrangements. Contents: Distribution of aged; Household composition; Mobility; Income and assets; Employment.

First Annual Report to the Michigan Legislature. State of Michigan Legislative Advisory Council on Problems of the Aging, Jan. 9, 1957, 10 pp. (Pamphlet)

Report of the Advisory Council based on a series of public hearings (3) in Lansing, Detroit and Marquette. Recommendations were made in the following areas: Employment, Health, Housing and a Dept. of Aging. Housing: Some of the difficulties preventing older people from maintaining own homes and retaining independence in separate housing facilities include: a) relatively low income of such persons, sharply limiting the amount they can pay for rented housing or the purchase of a home, b) relatively short life expectancy, limiting possibility of buying a home on a long term mortgage, c) need for specifically designed housing and dwelling units of the proper size which minimize the possibility of accidents and otherwise take into account the physical limitations of aging persons. Recommendation: Consideration should be given to the provision of interim loans from State Employees Retirement Fund.

Housing for the Aged. Staff Report to the Subcommittee on Housing, Committee on Banking and Currency, U. S. Senate, January 4, 1956, 70 pp.

Primarily a statistical report. Living arrangements of elderly people; household relationships; characteristics of households; income and employment status; health status; current developments in housing the aged; cooperatives; public housing; partially subsidized housing; other experiments; housing for elderly in foreign countries; a suitable dwelling for older persons; site, environment, and location; construction and facilities; the individual house for older persons; community services which aid the older person to maintain independent living; alternative courses of action in Michigan, Philadelphia, New York; need for research; Appendix - selected statistics on aging.

Nevada State Welfare Department. Report of Operations (July-September, 1957).

A survey of 300 out of 2700 persons receiving OAA in 1952 to determine their attitude toward a state home for the aged and groups of cottages especially planned for older people. Findings: Old people of Nevada cherish their independence. Only 2 percent are ready to move into a state old people's home if it were available. About 20 percent would like groups of cottages located in their own communities.

"New York City Housing Authority, Program for Aged," 4 pp. (n.d.). Typed.

Since 1951, State has required 5 percent of all dwelling units in State-aided projects be especially designed for the aged; not segregated in special buildings. These units are equipped with non-slip floors, grab bars, built-in seats in tubs, electric ranges, bars, low-hung cabinets, mechanically operated casement windows. Applicants must meet all the general eligibility requirements for admission to projects in the Authority program: citizenship, two years residence in New York City, presently living in substandard conditions and within the income limits for admission. Single persons over 65 may be admitted to Federal projects. Substandard housing requirement waived for the aged.

Panel Discussion, "Housing for the Aged," by New York State Commissioner of Housing, Joseph P. McMurray. Sponsored by Committee on Welfare of the Aged of the Community Council of Greater New York, October 16, 1957, 5 pp. Mimeo.

The problem of housing the aged is so vast and difficult because the problem of housing our people is so vast and difficult. Number one and the best answer that would solve most of the problems would be to greatly increase our housing supply. The second part of the solution would be to bring the cost of housing in line with the average person's income. Statistics on the economic status of those over 65 are presented. Older folk should be able and willing to spend a higher proportion of their income for housing than a younger family - 30 percent is a reasonable figure. A special study of patients over 65 in 6 New York hospitals in May, 1957, disclosed that about 20 percent of the aged patients, 145 of the 699, were retained in hospitals only because of lack of home facilities to provide shelter and care needed. Only 28 percent were considered to have adequate housing to return home. It costs a minimum of \$22 per patient day to maintain a hospital bed, whereas dwelling accommodations would require a subsidy of \$30 per month. No clear-cut answer of the question whether separate facilities or combined housing for older and younger families is better. Studies have revealed that more of the aged who live in separated-type housing prefer this kind of living. On the other hand, more of the aged who live in combined-type housing prefer that kind of living.

Parker, Florence E. "Cooperative Housing in the United States Mid-1950," Monthly Labor Review (September, 1951), pp. 258-264.

A statistical report on the state of co-op housing in the United States in mid-1950, with facts on costs. The chief problems of co-ops were financing, insurance, and loss of members. Findings indicated that associations that completed their projects were able to produce above-average dwellings in plots larger than ordinary. Types covered: "Co-ventures": members act collectively at one or several stages, then go out of business. "All-the-way co-ops": whole property continues to be owned by association members who own stock. Characteristics of Associations: Most associations were products of postwar housing shortage and were formed by returning veterans. Members came from a variety of income levels and occupational groups. Nearly two thirds of the total membership were in the \$2000-\$4000 per year bracket in 1949. Characteristics and Costs of Projects: The average dwelling had a kitchen and living room and two bedrooms. For nearly two thirds of all associations the cost of land was less than \$1000 per acre. Financing and Insurance: Members furnished 89.4 percent of the money for purchase of land, getting the rest from lenders, friends or relatives. Few of the housing projects covered in the study held FHA insurance. Cost to Member: Costs per lot ranged from less than \$100 to \$4000. The down payment on dwellings averaged from \$3500 to \$3640 for individual homes, \$251 in the mutuals, and \$390 per month in apartment associations. What the Member Gets. General Description of One-Story Buildings, Apartments and Mutuals (row houses).



"Recommendations Made at Public Hearings on Aging," November-December, 1956, held by State of Michigan Legislative Advisory Council on Problems of the Aging, (Ann Arbor) April 15, 1957, 16 pp. Mimeo. See section I.

Robbins, I. S. Housing for the Aged. Governor's Conference on the Problems of the Aged, August 30, 1955. (Pamphlet) See section V.

"State Aid to Cities and Their Senior Citizens." New York State Joint Legislative Committee on Problems of the Aging, 3 pp. Mimeo.

Seven ways in which states will aid local communities: 1. Organization for City Action: Mayors designate citizens committee on aging to develop programs to aid local senior citizens. 2. State-Aid for Recreation Centers for Senior Citizens: State-aid available on matching basis to cities to provide recreational programs for senior citizens. 3. State-aid for Counseling, Retraining, Adult Education: State funds available for these services to aged. 4. Hiring Retirees for City Posts on Part-Time Basis: Cities can hire retired state or local employees for temporary, seasonal or occasional work, pay up to \$1800 per year without suspending retirement benefits. 5. Providing Sheltered Workshops for the Aged. 6. Housing for Senior Citizens: Possible for city to lease city land to a non-profit company and set up a low-rent housing for the aged, under private auspices. Such a company may also be eligible for loans from the State. 7. Infirmary, Hospital, or Nursing Home Facilities. 8. Resource Personnel: Committee will assist in contacting experts in field of aging.

Steinle, John G. and Associates. "Home Care and the Housing Needs of the Aged," New York State Program in Housing, New York State Division of Housing, 1958, 56 pp. Biblio. See section I.

"Steps Taken by HHFA to Put Acts for Housing the Elderly into Operation." Current Programs and Operations of the Housing and Home Finance Agency, Washington Housing and Home Finance Agency, Office of the Administrator, December 5, 1956, 4 pp.

Title self-explanatory.

Stichman, H. T. "A Realistic Approach to Housing for the Aged," American City, XLVII (February, 1952), p. 151.

Brief description of Division of Housing of State of New York regulations on State-aided public housing. Included is a generalized statement of some of the design features and site orientation of projects.

"The Small Home for the Aged, Cost and Staffing." Council Reports, New York: Council of Jewish Federation and Welfare Funds, Inc., (March, 1956). Newsletter.

Construction cost per bed in small homes for the aged averages approximately \$7600 for building, furnishing and equipment.

"The Whys and Wherefores of Housing for the Elderly." Remarks by E. Everett Ashley, III, Director, Statistical Reports and Development Branch HHFA at 2nd Annual Conference Workshop on Aging, (Lafayette, Indiana) September 30, 1957, 21 pp. Mimeo. See section I.

"Toward Independent Living for Older People." Report on Housing for Older People, by Panel of Realtors and Bankers, Philadelphia: Philadelphia Housing Association, 40 pp.

1. Housing should permit choice between renting and owning and be in line with the limited incomes of the aged. 2. Developments for aged should be studied to determine effects of housing. 3. Concentrations of over 100 dwelling units should be avoided. Keep the developments small and within the surrounding community -- integration not segregation. 4. Structures should be one-story, two-story, and multi-story with elevators and be considered experimental. Use different floor plans. 5. Housing should give opportunities for social, recreational, educational, and religious activity. Facilities for health and voluntary activity or employments should be available to the units. 6. Non-profit organizations should build units, using provisions of Housing Act of 1946. 7. Existing housing supply should be adapted for needs of aged through use, by non-profit organizations of section 207, FHA, financing. 8. Housing authorities should allocate up to 15 percent of new projects for elderly. Some units should be included for aged in all projects, but higher proportion where special services needed by the aged are more readily available. 9. Non-subsidized housing for slightly higher (than low-rent) income groups should be built to be operated by non-profit organizations. 10. The State should participate in the planning of housing for the aged. Recommendations on services for elderly include need for coordination of health, welfare, etc., services; need for housekeeper services; need for counseling and vocational help services for older people in projects; coordination of services between those provided in projects and those in community needed; day centers are needed to provide social and recreational centers in and outside the development; research should be done by public housing and welfare agencies on needs of aged; independent health training programs important to train for independence and self-help, health; contacts needed for isolated elderly people, to develop skills, intellectual growth, and to adjust to environment. Adequate housing is defined as housing that enables older persons to live independently as long as possible - within the paying capacity of the person -- and that is located, equipped, and serviced so as to contribute to the social, physical, and psychological well-being of the older population. Planning should be based on needs: physical, decreasing mobility -- leads to safety and convenience; economic, low or moderate incomes, low or moderate rentals; social, increasing isolation from lifetime friends and relatives, need groups to belong to. Healthy older people should not be segregated from the general life of the community. Summary of the Census facts in Appendix A and of some major study findings: e.g., people who are 65 in 1955 can expect to live 14 years -- longer for women; one in twelve are 65 and by 1970 it will be one in eight; there are four women to three men over 65; three of the five men are married, only one in three women; two thirds of these over 65 are 65 to 75. one fourth are 75 to 85.

U.S. Department of Health, Education and Welfare, Special Staff on Aging. Aging: A Community Responsibility and Opportunity, Washington: United States Government Printing Office, 20 pp. Biblio. See section III.

"Who Will Build for the Nation's Aged?" House and Home (July, 1955), pp.136-137.

Home builders have not catered to the 14 million aged yet except in a few retirement projects. Public housing moves into the gap. A brief discussion of problems confronting aged desiring to buy or build a home: lack of cash, lack of financing by institution for fear of death or illness. Refers extensively to a report of the Massachusetts State Housing Board on differences between design of apartments for aged and other groups. More Federal aid appears to be the answer to public housing program for aged.

'Windsor, Canada," Journal of Housing, (January, 1955), pp. 8-10.

Ninety percent of the construction cost mortgage obtained from the central government, a 10 percent construction cost contribution from municipality, and a grant from the province of Ontario to build projects for the elderly.

C . SOCIOLOGY AND PSYCHOLOGY

Abrams, A. J. "Trends in Old Age Homes and Housing for the Aged in Various Parts of the World," No Time To Grow Old. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1951) No. 12.

There are two types of non-institutional housing being provided for the aged: those set aside for aged in projects consisting of flats or cottages for all age groups, and those flats and cottages provided in projects set up solely for the aged. There is danger in piecemeal planning for special groups, in segregation of housing facilities by age of tenants, of drastic shifts in place and types of living arrangements. There is a need for emphasizing self-sufficiency, privacy, and activity in non-institutional housing.

Anderson, John E. (ed.). Psychological Aspects of Aging. Washington: American Psychological Association, Inc., 1956, 323 pp. Biblio.

The proceedings of a conference on Planning Research on the Psychological Aspects of Aging, held under the auspices of Division 20, Division on Maturity and Old Age, of the American Psychological Association, April 24-27, 1955, at National Institute of Mental Health, Bethesda, Maryland. Six major sessions: Personal and Social Adjustment; The Assessment of Aging; Perceptive and Intellectual Abilities; Learning, Motivation and Education; Functional Efficiency, Skills and Employment; and Summary and Interpretation.

Arthur, J. K. How to Help Older People. Philadelphia: J.B. Lippincott Co., 1954, 500 pp. Biblio.

The focus of this book is on situations that produce "crippling and disabling emotions and attitudes." The book should be considered a guide to the solutions of problems that face older persons and their relatives. The prevention of problems is underscored: where to live, whether or not to work and how to find employment, how to get financial aid, where to get expert counseling, how to develop leisure-time activities.

Ashley, E. Everett, III. "Where and How Older People Live Today," Housing the Aging, Donahue, Wilma (ed.), Ann Arbor: University of Michigan Press, 1954, pp. 13-29.

There is a high concentration of one- and two-person families among older families caused by children leaving home and spouses dying. Sixty-eight percent of group studied fell into this category -- 25 percent were single, 43 percent couples. Less congestion in the homes: over 80 percent of family groups among the aging had an average of less than 3/4 persons per room as compared with a little over one half of younger families. (Figures from U. S. Bureau of the Census.) Sixty-eight percent of the households headed by persons 65 or older own their own homes. For the older families, ownership of a home undoubtedly represents their own social security programs that assures them a roof over their heads in their later years. This ownership is more or less a burden to an undetermined number of this group because of financial and/or physical inability to take care of it. As a result, the structure is gradually deteriorating

into the census classification of "dilapidated" -- 7 percent for older age group, as compared to 4 percent for people under 65. In the case of rental housing, the situation is far worse than that for owned homes: 12 percent of the rented dwellings were dilapidated.

A study of Housing Preferences of Manhattan, Kansas: Fifty older people's first preference was to live in their own homes, even if sick. As a last choice, they would live in their children's home but in separate quarters. Another survey of 6000 persons retired or approaching retirement (in higher income brackets) indicated a desire for the privacy of living in their own homes; two thirds preferred a single-family detached dwelling with two or more bedrooms. A study of retired people in St. Petersburg, Florida, indicated that both men and women wished to live in self-owned detached dwellings. Practically the same results were obtained in Grand Rapids, Michigan. On the other hand, in Rhode Island, approximately one third of 2400 persons said they would prefer congregate living in which they could maintain their own quarters yet be near other old people and have access to communal facilities for recreation, housekeeping, etc. "It may be that if more studies were made of the desires of the very old people or of those who are in poor health, we would find a stronger trend toward a preference for communal and sheltered care facilities. Also, we might find that there would be less resistance to becoming a member of the household of a son or daughter" (p. 29). In a Los Angeles study some of the reasons given for not wanting to live with relatives were: uncongenial relatives, crowded conditions in the home, and/or annoyances of small children. Those living with relatives felt they were not wanted, they were in the way, or were a burden on relatives.

Brightening the Senior Years. New York State Joint Legislative Committee of Problems of the Aging, Legislative Document No. 81 (1957), 135 pp.

Contents include articles on: the conflicts of the aged in our culture, the changing attitudes toward the aged, and planning for an aging population. Economic aspects of the aged: their resources, protection from "sucker" rackets. Employment problems and services available for aged. Recreation for the aged: New York State new state aid program, Golden Clubs and Centers in New York State.

Burgess, E. W. "Communal Arrangements for Older Citizens," Donahue, Wilma (ed.). Housing the Aging. /University of Michigan Press, 1954, pp. 72-90.

Ann Arbor:

Older people prefer living in family households to residing in institutions. They have a strong desire to remain in the home of their middle years, even though alone and it is difficult physically and financially to maintain the home. Those willing to move to another type of living arrangement wish to remain in the same neighborhood or local community. Much of the present housing arrangements of older persons do not represent free choice - a result of necessity. Doubling up with a son or daughter works all right in some cases, not in others. There is no one single best living arrangement for older people. The age group from 60-100 comprises forty years, and within this age range persons are different and their needs differ. Family relations and situations are different and preferences as to housing arrangements vary.

Cowdry, E. V. (ed.). Problems of Aging, 2nd ed. Baltimore: Wilkins and Wilkins, 1942, 936 pp. See section IV.

Dean, J. P. "The Neighborhood and Social Relations." Forum on Neighborhood, (April, 1958), 5 pp. See section VI.

Dean, J. P. "Public Housing for the Aged." Journal of Housing, III (September, 1946), pp. 203-204. See section I.

"Designing the Architectural Features of Housing for the Aged." For the American Society for the Aged, Inc., University of Chicago, Illinois, from Housing Association of Metropolitan Boston, Massachusetts. 15 pp. Mimeo. See section V.

Donahue, Wilma. "Where and How Older People Wish to Live," Donahue, Wilma (ed.). Housing the Aging. Ann Arbor: University of Michigan Press, 1954, pp.21-36.

The old tendency to plan for the older person and to decide for him what he wants or what is good for him, imposing standards of our own age upon him, for good or bad, is a persistent notion which is difficult to uproot. One of the special considerations in planning for older people is that of knowing that there is strength in the person's own drive for what he may want and for evaluating his ability to carry out his own plan, and along with that, the strength of the forces which may exercise definite control upon that drive or may even counteract it completely. These modifying controls are to be found in the social, health, and economic needs of the individuals which cannot be denied attention. There are divergent points of view as to what older individuals recommend on housing. One wants individual living in a house large enough to have room for visiting children and grandchildren (family unit is complete). The other would prefer something on the college campus layout with a central building housing 150 people with all the necessary facilities and personnel at hand; he desires companionship (family unit not complete).

Donahue, Wilma and Ashley, E. Everett, III. "Housing and the Social Health of Older People," 16 pp. (n.d.) Mimeo.

Changes in social and economic conditions are having an effect on the housing needs of older people and on their ability to satisfy them. Age-discrimination in hiring and retiring practices force many older people to seek cheap slum housing. Present day family composition denies to parents the shelter, care, and emotional relationships of the grown children. Inadequate housing and living arrangements constitute a threat to social health. Poor housing and social morbidities have not been demonstrated to have a causal relationship but appear to be associated factors. "The criteria used to evaluate efficiency of housing in promoting the adjustment of the aging must then be thought of and treated as flexible variables, depending upon whether they are being applied to individual dwelling units or communal arrangements for the able-bodied, to facilities housing the sick and senile, or to some intermixture of the two." Criteria can be applied to all members of aged group because of wide individual differences in desires and tastes. An important area needing systematic investigation is that of the personal and social characteristics related to good and bad adjustment in various types of accommodations and the tolerable range of individual differences in each instance. Health and

**Physical Care:** Healthful housing for older people is dependent largely upon design features which minimize accident hazards, permit easy care of households and provide proper size and space arrangements. The value of design features has not yet been tested experimentally so their inclusion increases construction costs. **Integration with the Community:** It is recommended that housing for older people be sited in the heart of the city or in "close-in" residential areas. The elderly want and need to live in close proximity to community facilities and services. Studies to compare the adjustment of older people living in the more rural or developed suburban areas with that of older people living in central residential districts are needed to verify or disavow the present trend of thought and action. Question that needs answering: What is the optimum siting of a housing project for the elderly to bring about maximum integration in community life? Spatial relationships and architectural features have an influence on the socialization and group membership of individual householders and group residents. Some of the elements of a site plan determine group membership. These factors include distance between houses, direction house faces; in two-story buildings, it was observed that no friendship flourished between floors but did among adjacent apartments. **Privacy and Independence:** Good mental hygiene is dependent upon freedom to be oneself. Privacy is essential. In a study of rural and small town residents, Cottman found a direct relationship between the degree of satisfaction with housing and the amount of space providing greater privacy within the houses -- the most satisfied occupied most space, the least satisfied had the least space. (Cottman, H.R. "Housing and Attitudes toward Housing in Rural Pennsylvania," Pennsylvania State College, School of Agriculture Bulletin, 42 pp. 1942.) **Personality Growth:** There are practically no systematic data or any age group data relating to the physical factors in housing upon the personality and behavior of the occupants. The ease of circulation of residents within a building and the provision for privacy reduce irritations and resentments and contribute to a sound emotional and mental life. For the elderly ease of housekeeping, reduction of strain in reaching and stooping, and "the environmental compensation for reduced sensory acuity" might be added as contributing factors. It seems apparent that almost every phase of housing, as it related to the social well-being of the older segment of the population, is in need of systematic study and evaluation.

Donahue, Wilma, Hunter, W.W., and Coons, D. "A Study of the Socialization of Old People," Geriatrics, VIII (December, 1953), pp. 656-666.

Reports on the Michigan Study of the social interactions of the residents of old-age homes. An experimental method: Residents of two homes formed an experimental population, residents from two matching homes were the control group. The social interaction of the residents of each home was measured by a sociometric test at the beginning and at the conclusion of the study, seven months later. Comparison of data supports the hypothesis that introduction of an intensive activities program will result in increased socialization and greater integration in group structure of residents, and in the absence of such a program socialization and group integration will decrease or remain the same. Case studies and observational data provide further evidence of the marked changes that were brought about in subjects who participated, and of lack of change among those who did not participate. Further studies of this

type are needed in which rehabilitation procedures are incorporated to improve the mental and physical health of subjects and thus enable them to obtain maximum benefit from participation in activities.

Donahue, Wilma, and Tibbitts, C. (ed.). New Frontiers for the Aged. Ann Arbor: University of Michigan Press, 1957, 209 pp. See section II.

Federal Security Agency, Man and His Years. Raleigh, North Carolina: Health Publications Institute, Inc., 1950. (Chapter 8, "Family Life, Living Arrangements and Housing.")

Special consideration must be given to the housing and living arrangements for aging persons if they are to make a satisfactory adjustment to their changing roles in family life and in the community. The basic principles of healthful housing can be grouped into four categories: Satisfaction of fundamental physiological needs, satisfaction of psychological needs, prevention of contagion, protection against accidents. These are applicable to all age groups but especially significant when considering housing for the aged. Persons over 65 were involved in 85 percent of the fatal home falls; protection against falls and other injuries in the home has a special importance for the aged. Handrails, extra illumination of stairs, grab bars, elimination of potential tripping hazards are some of the methods for preventing falls and injuries. There is not only a physical need for shelter but also the need for a place of one's own which is familiar and secure, adequate for social and recreational activities, and preferably a center of social life. There is no doubt that the aging population and the changing concept of family life demand that serious effort be made to provide something better than furnished rooms and inadequate institutional provisions.

Gumpert, M., et al. "Where and With Whom Should Older People Live?" University of Chicago Round Table, September 16, 1951, No. 703, 21 pp.

A radio discussion of the housing needs of the elderly, by Martin Gumpert, Tyge Haarlov, Robert J. Havighurst, and Marjory Warren.

The housing situations for the elderly in the United States, England, and Denmark are compared. It is generally agreed that one-generation pattern is the most desirable in living arrangements. The older person should be in social contact with other people in the community and with other members of the family.

Hoey, Jane. "The Need for Community Services to the Aged," Donahue, Wilma (ed.). Housing the Aging. Ann Arbor: University of Michigan Press, 1954, pp. 226-235.

The first weapon of defense against infirmity is a wholesome home environment. It is not the rickety stairs and cold drafts, but the oldsters who own state of happiness or unhappiness that make the house seem good or bad. Even the best intentioned people forget that the inside feelings are always more important than the outside furnishings.



Housing of Special Groups. A Report by the Scottish Housing Advisory Committee. Edinburgh: Her Majesty's Stationery Office, 1952, 99 pp.

The role of local authorities in providing housing for the aging is emphasized. Although many older people wish to live among the general population and have no desire to be sheltered from younger people, care should be exercised that such housing for the aged is insulated from houses with large numbers of children. Frailer older people should be accommodated in grouped housing of up to thirty houses. Older people's housing should be sited on level sites close to community facilities and oriented to provide the greatest amount of sun and shelter from high winds. Five types of houses are recommended: a) Single person's open bedroom type, b) single person's separate bedroom type, c) open bedroom type d) the open all-purpose small house, and e) the small three-apartment house. Fixtures: Showers are equally effective as tubs. The most suitable heating appliances are continuous burning, solid-fuel type. Choice between gas and electricity for cooking should be left to tenant. No cupboards should be provided which cannot be reached from the floor.

Johnson, R. J. and Pond, M. A. "Health Standards of Housing for the Aging Population," Public Health Service, Federal Security Agency, 13 pp. Mimeo. See section IV.

Klein, Clarence C. "Housing for the Aged," The Journal of Housing, IX (July, 1952), p. 248.

Public housing for the aged is a public responsibility because the increasing numbers of aged is a product of the democratic way of life, i.e., the emphasis should be put on the humane concept of preventive medicine and the science of public health.

Ladimer, I. "Housing and Health Facilities for Our Senior Citizens," Public Health Reports, LXVII (December, 1952), pp. 1196-1202.

A summary of the health features of the 5th Annual Conference on Aging, University of Michigan, July, 1952. Older people want to live their own lives and want to be near public transportation, or, preferably, within walking distance of community facilities. They don't wish to be segregated in planned projects, have no great desire to move into new communities. Older individuals want to be near medical facilities and have doctors, nurses, and family confidants available in their later years. Neighborhood planning plays an important part in meeting the needs and desires of older people (population density, privacy, parking, community centers). Design and Sheltered Care: Certain conveniences and safety measures are important. The problems of aged and chronic disease are not synonymous, but are so closely interrelated that they cannot be studied in separate parcels. Financing medical care is one of the most significant and acute problems facing older people. Possible solutions: home care, prepayment plans.

Martin, J. and Mirkin, S. "New Public Housing Problem," New York Daily News, (June 13, 1957), p. 4.

The aged person who is taken from the slums to a new housing project goes from a personal environment to an impersonal one. The feeling of being alone often aids in bringing on a physical and/or mental breakdown. Though there are useful services set up for Senior Citizens who can visit a center or clinic, the housebound aged get little or no attention. Many aged have a marginal income from social security or a pension that disqualifies them

for receiving free services from the Department of Welfare. The Housing Authority is unable to decide whether its relationship with its tenants goes beyond that of just rent collector.

Mathiasen, G. "Housing for Older People," Enriching the Years. New York State Legislative Committee on Problems of the Aging, Legislative Document (1953), No. 32, pp. 95-99.

Home ownership by a large number of people over 65 is not only a financial asset but a great emotional asset, whatever the physical condition of the house. Older people don't like to move. They move less than other age groups from house to house, county to county, within the state, and state to state. Medical care facilities should be incorporated in housing schemes. Older people want to be a part of the main stream of public life. They don't want to be segregated or isolated.

"Message to the 69th Michigan Legislature," by G. Mennen Williams, Governor of Michigan (February 1, 1957), 16 pp. Mimeo.

II. HOUSING: Studies in Michigan indicate that half of the citizens over 65 consider themselves to have a housing problem. Many of these people live in houses they themselves own, but 60 percent are overhoused, in that their dwellings are too large to meet their needs and too costly for them to maintain. There is a great feeling among senior citizens that their lives could be made simpler and happier, and that they could afford more things they need if less of their budget were committed to housing which they cannot afford and which does not meet their purposes. One fourth of the people over 65 wanted to change to more suitable housing, according to a survey made in Grand Rapids. There are long waiting lists for every unit of private housing for older people. Nearly half of the people over 65 moving into Herman Gardens in Detroit do so because of economic reasons.

Moore, E. H. "Homes, Hostels and other Institutions for the Aged," Journal of Gerontology, III (July, 1945), pp. 207-214.

There is a growing number of aged who desire or find necessary some type of congregate living as evidenced by long waiting lists for admission to such institutions. These institutions can be good or bad. Retention of friends and contacts outside the home, the degree of freedom within, the opportunity to escape temporarily from irritations within the home, some spending money, and a wise and sympathetic superintendent all help make a home membership a more satisfying experience. New types of congregate living have developed besides the fraternal, church, union, and benevolent homes. Residential homes and cooperative clubs have been organized in many cities; old age hostels in England are another type. Transition to a home or other type of congregate living will be easier for the aging person if plans are made well in advance of the time of entrance.

Mumford, L. "For Older People - Not Segregation But Integration." Architectural Record (May, 1956), pp. 191-194.

The breaking up of the three-generation family coincided with the curtailment of living space in individual households. From this has come social destitution, the aged are unwanted in small homes, though loved or unloved because they are unwanted, and they find their lives "progressively meaningless and empty, while their days ironically lengthen." The problem of housing the aged is only one part of larger problem of restoring old people to a position of dignity and use, giving them opportunities to form new social ties to replace those broken by family dispersal and death. The process of aging seems to go through three stages. The first, occurring at about 45 years, is marked by independence of children, shrinkage of space, by the breaking of neighborhood ties. The second is the stage of economic retirement at 65, from an active working life. Automatic retirement often brings on a severe psychological crisis: retirement tends to make life seem meaningless. The third stage is one of physiological deterioration accompanied by a loss of self-help and self-confidence. Since the cost of institutional care is high, neighborly kindness and friendly oversight are needed to restore the voluntary care that the three-generation family once made possible. The worst possible attitude toward old age is to regard the aged as a segregated group to be removed from the presence of families, friends, neighbors, familiar surroundings and interests to live in desolate idleness. All community facilities should be available to the aged. For companionship, and easier nursing care, the aged should not be scattered in single rooms or apartments, neither should they be thrown together in one large barracks. They should be grouped in small units of from six to twelve apartments.

"Neighborhood Villages for the Aged Proposed," The American City, XLVI (December, 1951), p. 163. See section VI.

New Channels for the Golden Years. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1956), No. 33.

Today there are elderly people who are making new households of their own and are living in increasing numbers apart from their children. On retirement, some elderly people want to move from apartments in cities to small homes in rural areas, some who move from farms to villages, some who move from big homes to small apartments, others want or need housing that provides supervision ranging from occasional to round-the-clock, light to intensive. At retirement the demand for housing is for husband and wife; at the age of 75 the emphasis is for housing for aged females, due to the earlier death of the males. (There is a recapitulation of a survey by an unnamed magazine on the features desired by its readers in retirement homes.)

Pressy, S. L. and Kuhlen, R. G. Psychological Development Through the Life Span. New York: Harper and Brothers, 1957, 654 pp. Biblio.

Though not dealing specifically with housing for the aged, this book contains valuable information on the psychological development of people that does have a bearing on housing.

"Report of the Governor's Commission to Study the Problems of Aging." (January, 1953, Michigan, 92 pp. Biblio.

Chapter 10 Housing, pp. 52-55: "Statistical compilations with respect to housing cannot show the extent to which older people are dissatisfied with their housing. The number of these who, given more suitable housing, might improve in health and become functioning members of society again, contributing to its growth and welfare cannot be estimated."

Robbins, I.S. "Housing for the Aged." Governor's Conference on the Problems of the Aged, August 30, 1955 (Pamphlet.) See section V.

Sheldon, J.H. The Social Medicine of Old Age. Report of an inquiry in Wolverhampton (England). The Nuffield Foundation, 1948, 239 pp.

A social survey of 552 aged individuals and a medical survey of 477 older persons carried out in 1945 and 1946 in Wolverhampton. The areas investigated were the physical state of old people living at home, mental state of old people living at home, the domestic structure, and management of illness in the home. The final chapter is devoted to a discussion of some of the major problems of old age and their possible solutions.

Stern, E. and Ross, M. You and Your Aging Parents. New York: A. A. Wyn, 1952, 212 pp.

A review of the parent-child relationship in the home after the child has established his own home. A discussion of the relationships if they live apart or live together, in health and in sickness.

Stieglitz, E. J. The Second Forty Years. Philadelphia: J.B. Lippincott Co., 1946, 317 pp. Biblio. See section IV.

Stonecypher, David D. "Old Age Need Not Be 'Old'." New York Times Magazine, (August 18, 1957), pp. 27, 67-69.

The psychiatric problems of old age are reviewed by Dr. Stonecypher who attempts to clear up many misunderstandings about the supposed forbidding nature of old age. Senility is explained by the fear and frustration associated with growing old in our society. The psychological stresses of the elderly appear to fall into three main groups: 1) those associated with fear of physical deterioration, 2) those imposed by society by forcing him to retire, and 3) those concerned with the loss of companions, relatives, and close friends. The reaction to these forces varies with the individual: some become psychotic, some merely childish, while others seemingly are unaffected. New interests and activities, a wide circle of social contacts, employment, staying out on familiar surroundings, maintaining neat personal appearance, remarriage when feasible -- these are some of the ingredients for an elixir of youth.

"The Over-65 Have Housing Problems." American Builder, LXXV (November, 1953), pp. 58-64.

Profile of a 65-year-old: Primary need is to remain independent and respectable; he desires to remain where he has always lived and enjoy the privacy and privileges of all private citizens. The number 1 problem is

individual private housing that he can afford, and that also takes into consideration the physical decline of age. It is difficult to get old people to accept change of residence from old, over-large, dilapidated homes to homes built especially for the aged. Statistical recapitulation of 1952 conference on housing the aged at the University of Michigan are presented. Eight plans for housing for the aged, row, apartments, and single-low and high income.

"The Senior Citizens Fund Story," Kalamazoo, Michigan, March 1, 1950, 6 pp. (Pamphlet.)

Social aspects: The problem of the aged is not restricted to the destitute or infirm but is a problem created by the comparative isolation and loneliness of the older person in today's living pattern. Their need is for companionship, independent living, stimulus and fulfillment of interests, and for relief of housekeeping cares. The Senior Citizens idea pays attention to the active, able-bodied elderly person with the aim of extending the period of activity and alertness. Domestic arrangements: The residential unit is located close to the center of activity in Kalamazoo. Within walking distance are principal stores, library, churches, park, and centers providing entertainment and recreation. Most accommodations are one-room apartments for single occupancy; there are three one-room apartments and three two-room apartments for couples. Each unit has its lavatory, kitchenette unit, and telephone.

"The States and Their Older Citizens." A Report to the Governor's Conference, The Council of State Governments (Chicago, 1955), 176 pp., Biblio.

The scope of the problem includes employment, minimum adequate income, living arrangements and family relatives, physical health, mental health, institution, use of leisure time. The Problem of Living Arrangements and Family Relations (pp.28-33): Three major concerns of persons in their advancing years are: where they should live, with whom should they live, how to maintain satisfying relations with children, grandchildren and great-grandchildren. Family ties with relatives are increasingly significant for older people, as they lose friends by death, disability, or departure to other places. Since 1890, a shift in the family relations pattern has occurred in the loosening of inter-generation relations. The parent-adult child relationship, although loosening, is not breaking. It is being reorganized on the basis of companionship and recognition of the mutual independence, freedom and autonomy of both generations. Maintaining one's own home is a valued objective of older as well as younger people. Housing for the aged is not being met adequately by private construction or by the public through the federal government, the states, or the municipalities. Certain chronic illness and disabilities are more prevalent among older than middle-aged persons. These include diseases of the heart and other cardiovascular diseases, arthritis and rheumatism, cancer, nephritis, prostate diseases, orthopedic impairments, deafness, and loss of eyesight. It has been shown that a high percentage of the chronically ill and disabled can be rehabilitated by individualized treatment. Through modern techniques, crippled old people are being restored to self-care, to their own homes, and even to self-support.

United States Department of Health, Education, and Welfare, Special Staff on Aging. "Aging - A Community Responsibility and Opportunity." Washington: United States Government Printing Office, 20 pp. Biblio.

The traditional three-generation family has been superseded by the self-sufficient two generation unit. The small house or apartment has become the typical family residence with little or no room for the "old folks". The old-fashioned "family homestead" has largely faded from the picture. A new situation for millions of people in their early 50's and upwards has been created - a displaced segment in the family constellation. At a time when the average life expectancy is being lengthened, their period of usefulness in the family household is being shortened. This group must develop new interests and a new manner of living largely independent of their children. Because of the lack of small houses or apartments, geared both to their pocketbooks and needs, many older people are likely to discover that a rooming house or a substandard apartment in a cheap-rent district is all they can afford. One of the most tragic aspects of old age is the lack of a sense of being needed or wanted. Older people feel they have been deprived of the very purpose of their existence and are living lives of frustration and loneliness. Government estimates of what it costs an elderly couple to maintain a "modest but adequate" level of living in an urban area in October, 1950, ranged from \$1602 per year in New Orleans to \$1908 per year in Milwaukee. In 1950, 43 percent of families headed by a person "65 and over" had a cash income of less than \$1500, 3 percent had under \$1000, and 15 percent had less than \$500. Since 1950, general income levels have risen, but so also has the cost of living. In 1951, when consumer prices were 12 percent higher than in 1950, 35 percent of this family type had cash incomes below \$1500, 21 percent had less than \$1000, and 9 percent had less than \$500. For a vast number of workers approaching old age, the financial outlook is often extremely hazardous.

United States Department of Health, Education and Welfare, Public Health Service. "Looking Forward to the Later Years." Public Health Service Publication No. 116, 14 pp. Biblio.

People should prepare now for the older years by taking stock of problems that will confront them at 65 and over, and by taking a medical, a financial, a family, an activities, and a social inventory to obtain an idea of assets and liabilities. Older people should enjoy the later years by being independent, taking play seriously, learning new things, getting along with others, living with illness and disabilities, getting help, and helping others. They should discover what the community is doing for older citizens.

United States Department of Health, Education and Welfare. "The Older Person in the Home." Public Health Service Publication No. 542. Washington: United States Government Printing Office, 1957, 34 pp. Biblio.

Successful three-generation life depends on how well the needs of each member of the family is met. Thoughtful planning of living quarters, helping the older person find and use service that will promote physical and mental health, helps to make adjustments easier. Privacy without isolation is important. The right to be alone should be respected and the opportunity to entertain self-selected friends should be provided.

Living quarters of the aged should be on the ground floor, if possible, for physical reasons, provided there are bath and toilet facilities on that floor. Let the older person decide what he wants in the room, and let him keep possessions from his own home. The need for bodily warmth becomes more acute as one gets older. There should be facilities for keeping older person's room well heated. Accident prevention is paramount: tack down carpets; large firm rugs make the safest floor coverings; place a night light in the room as well as in the hallway and bathroom; hand grips, bath seat, non-slip stools and mats in the bathroom; control electric light by a wall switch; keep stairways well lighted; eliminate door sills where possible, arrange kitchen so that the older person can cook in it comfortably and safely.

Vivrett, W.K. "Designing a Retirement Village." Conference on Retirement Villages, American Society for the Aged, Inc. (Palm Beach, Florida), February 21, 1958, 22 pp. Mimeo. See section VI.

D. PHYSIOLOGY

Cowdry, E. V. (ed.). Problems of Aging (2nd ed.). Baltimore: Williams and Wilkins, 1942, 936 pp.

A collection of articles on the problems of aging from a physiological and psychological view. There are four chapters dealing with aging in lower forms of life and with the many organs and systems of the human body.

Droller, H. "Falls Among Elderly People Living at Home." Geriatrics, X (May, 1955), pp. 239-244.

In 1948 a social survey was carried out by the Sheffield (England) Council of Social Service on a sample of all people of pensionable age in Sheffield. Question of falls discussed with each subject by social worker and by examining physician. Causes of falls: Falls increase with age, and women fall at an earlier age than men. Table 1 shows the age composition and liability to falls of the sample. Table 2 lists the conditions contributing to falls: clinical conditions and environmental conditions. Table 3 lists patterns of falls: street and domestic. Table 4 is a pattern of falls - situation: street and domestic. Table 5 indicates the sex distribution of fractures in general. Table 6 lists the site of fractures (on the body) by sex distribution. General health and physical findings: The subjects were classified by a physician in three medical categories: fit, moderately fit, and unfit. Table 7 gives the breakdown on general health for the entire sample and those liable to falls. Prevention: Control of the environment and continued physical training of the aging are mentioned as methods of preventing accidents to the elderly and thus avoiding infirmity from falls.

Hobson, W. (ed.). Modern Trends in Geriatrics. London: Butterworth and Co., Ltd., 1956, 422 pp. Biblio.

A collection of articles by distinguished experts in the field of medicine in England. The subjects concern different phases of the medical aspects of the elderly: general problems, aging from a biological and cellular point of view, normal values and the interpretation of biochemical data, psychological aspects, arteriosclerosis and hypertension, glycosuria, chronic bronchitis, skin conditions, gynecology in senescence and senility, orthopaedic surgery, anaesthesia, therapeutics, nutritional problems, physical medicine in treatment, hospital care, problems in home care, and employment, retirement, and health.

Johnson, R.J. and Pond, M.A. "Health Standards of Housing for the Aging Population." Public Health Service, Federal Security Agency, 13 pp. Mimeo.

A statistical review of the growth of the proportion of the aged in the nation's population and the decrease in the average number of persons per household. Data from the National Health Survey indicating the special health problems of the aged are related to housing for the aged. Fundamental physiological needs: The poorer circulation and the impair-



ment of the heat regulating mechanisms of older persons make them more sensitive to surrounding temperatures than are young healthy adults. As a consequence, heating systems which are easy to operate should be provided capable of maintaining an operative temperature some 5° higher than for a healthy young adult. Impairment of vision means that more light, natural and artificial, must be provided. Windows need to be larger and properly oriented to the sun. Fundamental psychological needs: Privacy is needed for older persons to avoid the daily living tensions and to have space for sedentary recreation and meditation. They need a private room with ready access to a bathroom. The reduced ability of many older persons to do physical work requires a structure designed to ease routine tasks. Protection against contagion: A safe water supply is a health "must". Also, it is important to design the dwelling to eliminate harborage for rats, cockroaches, and other vermin. In congregate living accommodations, sleeping space should be adequate to limit the danger of the spread of respiratory infections. Extraordinary attention to the use of designs and materials that will reduce fire hazards are important. Older people have reduced sense of smell, decreased mobility and, in senile persons, mental deterioration may be a factor in causing, and escaping from, fires. Older people have more home accidents than younger adults. Accordingly, special attention should be given to designs that will eliminate or reduce accident hazards. Bedroom, bath, and stairs are special areas of concern. Housing can be a positive factor in health. Adherence to the basic principles having special significance for older persons should provide housing that will promote health and happiness.

Old Age in the Modern World. Report of the Third Congress of the International Association of Gerontology (London, 1954), Edinburgh and London: E. and S. Livingstone, Ltd., 1955, 647 pp.

An edited report of the congress held in London of 1954. The subjects discussed cover the following: Age and society, national programs for care of the aged, nutritional aspects of aging, tissue changes, cancer, endocrinology, changes of performance with age, employment, surveys, neuropsychiatry, cardiovascular diseases, clinical problems, residential care, community activities, education for later maturity in the United States, and general aspects of aging.

Stieglitz, E. J. (ed.). Geriatric Medicine (3rd ed.). Philadelphia: J.B. Lippincott Co., 1954, 718 pp.

There are forty-two chapters contained in eight sections dealing with geriatric medicine. Basic considerations: The foundations and principles of geriatric medicine; the anatomic, physiologic and intellectual changes of normal senescence; medical care of normal senescents; mental hygiene in later maturity; medical care of normal aged; medicolegal aspects of senility; essentials of geriatric surgery, geriatric anesthesia; and of geriatric nursing.

Stieglitz, E.J. The Second Forty Years. Philadelphia: J.B. Lippincott Co., 1946, 317 pp. Biblio.

A discussion of some of the various physiological and psychological aspects of the process of aging: senescence, heart trouble, high blood pressure, nutrition, sex, cancer, leisure time and constructive medicine. A book that contains factual data that will assist people to prepare for the aging process.

The States and Their Older Citizens. A Report to the Governor's Conference.  
Chicago: The Council of State Governments, 1955, 176 pp. Biblio.  
See section III.

Thewlis, M. W. The Care of the Aged, 6th ed. St. Louis: The C.V. Mosby Co.  
1954, 832 pp.

While not concerned directly with housing for the aged, some of the material is pertinent to consider when designing dwelling units for the elderly. The nature and frequency of illnesses and functional disorders determines whether or not special features should be included in these units.

B. SPACE AND DESIGN

"Accommodations for the Aging." New York State Division of Housing (July, 1955), 6 pp. Mimeo.

Some of the details of state-aided low rental housing projects are: non-skid composition flooring, no thresholds, wall bracket light fixtures to facilitate changing the bulbs, electric stoves, bath tub seats, hand grips near tub, large ratchet-operated casement windows, two-way ventilation for maximum air circulation, proper radiation to provide above average heating temperature. Special apartments are of two types: one, a combination living room with concealable strip kitchen and separate bedroom and bath for couples. Second, a combination living and sleeping room with separate kitchen with dining space and a bath for older couples who must keep household activities at a minimum, and also for single persons. Aged tenants are not separated from community life. Apartments themselves are in the same buildings as those for other project tenants. In each project there is adequate space and facilities to participate in constructive recreational activities.

Alt, Edith. Standards of Care for Older People in Institutions, Section I. New York: Committee on Aging of the National Social Welfare Assembly. Standards for institutions caring for older people.

In bedrooms the windows should be constructed to allow maximum sunlight and air and to eliminate drafts. Window space should equal one eighth of floor space - 800 cubic feet of air space per person. Bedroom for one person should be at least 100 square feet. For more than one person, 80 square feet per person. Electric outlets should be conveniently placed and adequate. Bathrooms should have tile walls, a non-slippery and easily cleaned floor. Stall showers with side sprays, stools and hand rails are desirable for residents unable to get in and out easily. Staircases should be of adequate width and should slope gradually. Stair treads and sturdy hand rails should be provided that are well lighted, with electric switches at the top and bottom. Doors opening out onto stairways should open onto platforms at least equal to the door width in the direction of travel.

American Public Health Association, Inc., Committee on the Hygiene of Housing. Housing an Aging Population. New York: American Public Health Association, 92 pp. Biblio. See section I.

Bevis, Leona. "Cleveland Combines Housing with an Old-Aged Center." Aging, (May, 1954), pp. 2-3.

Cedar Apartments will have mixed tenants - old and young persons. Four units out of twelve are to be occupied by young families.

Bolt, R. H. and Newman, R. B. "Control of Noise." Construction and Equipment of the Home, Chicago: Public Administration Service, 1951, pp. 33-48.

The influence of noise in external form may cause bodily damage by destroying the hearing mechanism either permanently or temporarily. More frequently the effects are indirect, causing changes in respiration, blood pressure, digestive functions, and fatigue. The reactions of

people to noise and their powers of adaption to it vary greatly. Criteria for noise control standards include tolerable background noise levels for housing sites, noise reduction requirements between spaces and desirable conditions of sound absorption within dwellings.

"Buildings for the Aged," Architectural Record, CXVI (September, 1954), pp. 185-206.

Principles of design in aesthetics, location safety, lighting, heating and communication. Plans of nine buildings for the aged.

"Check List on Home Safety." Architect's Safety Committee (Sub-Committee under the Home and Farm Safety Advisory Committee of the Department of Health, State of New York), 21 pp. Mimeo.

The check list includes items of house design, construction and equipment that have to do with fire hazards and home accidents both direct and indirect. Outline of topics covered: House planning - location of house; space layout; stairs and steps. Hazards due to collapse of structural parts. Fire hazards - chimney and smoke pipes; heating equipment; electrical equipment; lightning; fire fighting. Falls and other mechanical injuries. Burns and shocks. Poisoning.

Cole, A. M. "What the Aged Need in Their Homes." New York Times Magazine (August 4, 1957), pp. 11, 20, 23.

The administrator of the Housing and Home Financing Agency discusses the housing situation as it pertains to the over-65 group. There is no single answer to what is ideal housing for the elderly, because of the differences in attitudes, tastes, preferences, etc. Some specific design recommendations developed through research include 1) dwelling units on one floor; 2) elimination of thresholds and other tripping hazards; 3) use of non-skid surfaces in hallways, bathrooms and kitchens; 4) living room separate from sleeping space; 5) good illumination of stairs and other hazardous areas; 6) hand rails for stairs, hand grips for bath tubs; 7) safe open flame cooking, if used; 8) easily operated windows; 9) facilities for maintaining temperatures above 70°F.; 10) wider doorways; 11) bathroom and bedroom bells to sound in neighbor's dwelling; 12) orientation of floor plan and window design to admit substantial sunlight. Criteria for retirement towns have also been developed: houses with two bedrooms, one bath and generous storage space; site location away from industry and highways but near employment opportunities, transportation, medical facilities, stores, churches, etc. The role of FHA and FNMA in insuring the mortgages of individuals and of housing projects for the elderly is mentioned. The sponsoring group supplies 10 percent of the cost of completing the project, interest rate is 4-1/2 percent, repayment period is up to forty years.

"Committee Findings and Recommendations." Growing with the Years. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document No. 81 (1957), 159 pp., pp. 42-44.

Accidents constitute a major threat to the life of the aged, outranking every other cause of death except cancer and cardiovascular diseases. John T. Kenny Apartment is a state-aided public housing project in

Newburgh, New York, with 2 and 2-1/2 room apartments especially designed for the aged. Rentals are \$32.25-\$34.75 per month for the living room-dining room and kitchenette type and \$33.25-\$36.75 for the bedroom, living room, and kitchenette type. The apartments have automatic heat, refrigerator and electric range. The utilities are included in the rent.

"Committee on Housing for Older People." Philadelphia Housing Association, Health and Welfare Council, Division of the Aging, July 1, 1957. (Pamphlet.)

The possibility of two unrelated persons sharing an apartment is raised with the idea that such an apartment would have to be designed differently from one designed for a married couple - a living-bedroom for each person that could be reached without going through the other person's room. The sharing of a unit would lower the costs but the Committee feels that such an arrangement would not be satisfactory in the majority of cases. The Committee believes that there is no single type of structure best suited to the needs and desires of older persons - some prefer street level, others above the ground floor; some like self-service elevators, some don't. Special safety and convenience features in housing for the aged include: Two grab bars over tub, securely mounted; one grab bar over toilet, securely mounted; non-slip tile floor in bathroom; a combination switch and receptacle which can be used for a night light in bathroom; lower wall cabinets in kitchen so that an older person does not have to use a stool to reach top shelf. Heating facilities sufficient to provide 75°F. heat; window sills low enough to permit looking out while seated, yet with protection against falling out; location of apartments for older people in structures with skip-stop elevators only on floors where elevators stop. The Committee feels that the following should also be considered: Protected balconies; electric stoves; telephones for summoning assistance; sit-down showers instead of bath tubs in some apartments.

Cooper, F. A. "Wanted: A New Kind of Old People's Home." American Home, XLVII, (January, 1952), pp. 18, 89.

Opinion of the author concerning an adequate house for elderly couple of moderate means, which would include living-kitchen and bedroom on main floor, basement playroom for family parties, an attic dormitory for grandchildren.

"Designing the Architectural Features of Housing for the Aged," for the American Society for the Aged, Inc., University of Chicago, Chicago, Illinois, from Housing Association of Metropolitan Boston, Boston, Massachusetts, 15 pp. Mimeo.

The aged person who can and wants to live in a non-institutional setting is a relatively new client for the planner and designer. Most of them are retired, and their dwelling and neighborhood may form their physical setting throughout the day and night. Thus, the planning of adequate community facilities for leisure-time activities becomes a major consideration in the design of accommodations for the elderly. In small and compact dwelling units the areas for the several living activities must be carefully planned and grouped so that there can be mutual borrowing of space and still allow for proper screening of private areas. The big unknowns that require research concern the plan of the community areas and the layout of the site. A series of studies on the effect of

different types of design on those living under them would yield useful knowledge. Most of the research has a sociological bearing as the design must do its part in reducing the sense of psycho-social isolation and in creating a worthwhile environment. Research among residents in existing housing for the aged would provide architects with knowledge of attitudes and preferences in architectural features.

Donahue, Wilma. "Programs in Action," Donahue, Wilma (ed.) Housing of the Aging. Ann Arbor: University of Michigan Press, 1954, pp. 243-272. See section VI.

"Federal Aid," Journal of Housing (May, 1956), p. 19.

San Antonio hopes to construct a project for the aged. A poll of 55 elderly residents of existing project disclosed that residents prefer living on first floor to any other location. There was little enthusiasm for combining living and bedroom facilities and for sharing a kitchen or bath.

Federal Security Agency, Man and His Years. Raleigh, N. C.: Health Publications Institute, Inc., 1950. See section III.

"Hartford Park," Journal of Housing (January, 1954), pp. 18-19.

The Providence Housing Authority has built unusual low rent housing project which includes 4 ten-story and 9 four-story buildings made up mainly of duplex units. One ten-story building contains only one-bedroom flats primarily for elderly people.

"Housing for Aged," Journal of Housing (November, 1955), p. 18.

Experience of Yonkers authority has been that aged families live just as well in a dwelling designed for the average family as any other people do.

"Housing for Aged," Journal of Housing (February, 1956), pp. 5-7. See section VI.

"Housing for Aged," Journal of Housing (August-September, 1956), p. 17.

Project in New Bedford, Mass., is located on two sites, each with ample outdoor space for get-togethers. The basic interior design is intended to provide adequate space for comfortable living while reducing the amount of housekeeping involved to a minimum. Safety and comfort features are incorporated such as electric refrigerator, automatic lighting for gas stove burners, automatic gas cut-off for oven.

Housing of Special Groups. A Report by the Scottish Housing Advisory Committee Edinburgh: Her Majesty's Stationery Office, 1952, 99 pp. See section III.

Housing the Elderly. San Antonio Housing Authority, San Antonio, Texas, 1957, 112 pp. Biblio.

A documentation of the research done by the San Antonio Housing Authority in its program of housing for older persons. Part I - General Design

Considerations. Part II - Facts Supporting Request to Extend Community Space: The justification to the Public Housing Administration in support of the Authority's request to use the first floor of the proposed apartment building as an activity center for the aged. Part III - Architects' Criteria, Apartment Building for the Elderly: The San Antonio Housing Authority holds to the view that housing for the aged requires special design because of the differences in the capabilities and requirements of the elderly as compared to younger age groups. This section contains specifications to be followed by the architects in designing the apartments and cottages for the aged. The specifications are very explicit and contain some of the best ideas on housing the aged in use today. Part IV - Management Considerations in Housing for the Elderly: A discussion of the problems arising in housing the aged and of the various community programs that should be started before the housing project.

Johnson, R. J. and Pond, M. A. "Health Standards of Housing for the Aging Population," Washington: Public Health Service, Federal Security Agency, 13 pp. Mimeo. See section IV.

Ladimer, I. "Housing and Health Facilities for Our Senior Citizens," Public Health Reports (December, 1952), pp. 1196-1202. See section III.  
 LXVII

Loewenberg, I. S. "Designing Homes for the Aging," Donahue, Wilma (ed.) Housing the Aging. Ann Arbor: University of Michigan Press, 1954, 280 pp., pp. 55-63.

Special provisions in design should be incorporated in the plan in as thoughtful and unobtrusive a way as possible. Living arrangements should be complete on one floor with no steps or ramps. Every multiple story building should have an elevator and a ground floor entrance. Buildings should be oriented so that at least the bedroom and living room have some sunshine during the day. Rooms should have large glass areas to increase the sense of expansion of horizon. Windows placed to obtain good exposure to prevailing summer breezes. The building should be heated to approximately eight degrees higher than required for younger people. The artificial lighting should be prevalent and more uniformly distributed. Doors and partitions should be wider for wheel chairs; the floors non-skid; grab bars at water closet and bath tub; thresholds at doors eliminated. Shelving should be lowered to avoid the use of stepladders. Kitchens should be all electric, designed simply so no steps are wasted. Labor-saving devices in the kitchen and adequate closet space are essential. Housing should be complete in all facilities. Institutional Homes for the Aged should be located in neighborhoods easily accessible to transportation, churches, shopping facilities, movies, libraries, and a hospital. A chapel, assembly room, library, barber shop, beauty shop, chiropodist's office should be in the building. Bedrooms should be light, airy, with room for an easy chair, writing desk, and perhaps some living room furniture in addition to the bedroom furniture. Floors should be level with no thresholds, walls and ceilings should be plastered, floor and base should be rubber tiled, and handrails should be provided.

Massachusetts State Housing Board. "Standards of Design, Housing for the Elderly." Boston, Mass., March, 1954, 17 pp. (Pamphlet.)

A handbook with standards of design for apartments, buildings, sites, and specifications. Each category is further broken down into smaller units and given thorough coverage.

Masur, Jack. "Establishing Housing Standards for the Aged." Public Health Reports, LXVII (December, 1952), pp. 1192-1195.

Concern of this report is with housing for all aged - able-bodied who live in public and private institutions, the sick in nursing and convalescent homes and in hospitals, and the great majority of aged who live in private homes. Must learn more about the psychology of aging and more about what older people want. Three major steps in the development of standards of housing for the aged: 1) Those directly engaged in care of aged can select what they believe the minimum standards, on basis of knowledge and experience. 2) Call conference of all groups interested in problems of the aging to check standards derived in #1. 3) Give standards legal status and prevent abuse by unprincipled persons. Public interest and support are essential to the establishment of effective standards. Reduction in cost of housing for aged persons will be achieved only in the measure that cost of housing for all people is reduced. Housing problem can be attacked by prevention of accelerated rates of deterioration of dwellings and their environment and by rehabilitation of existing substandard housing.

"New York City Housing Authority, Program for Aged," 4 pp (n.d.). Typed. See section II.

"Old Folks at Home," Community, XXIX (November, 1953).

Description of one bedroom units containing living room, bedroom, combination kitchen-dining space, bathroom and storage closet; living room and bedroom nearly equal in size. Easy conversion into a twin living-bedroom combination is possible by installing a closet in the living room. Design features: non-slip bath tubs; non-stumble thresholds, safety windows, low shelves and cabinets.

"Public Housing for the Aging in Michigan." State of Michigan, Legislative Advisory Council on Problems of the Aging (Ann Arbor, Michigan), November, 1957, 2 pp. Mimeo.

Some local public housing commissions in Michigan report these features as necessary in housing arrangements for older persons:

Special attention to stairs and bath tub arrangements. A provision for contact with a neighbor by bell or buzzer. A compact and efficient kitchen, conveniently located light switches, entrances level or ramped and doors widened for wheelchairs. One commission felt that the overall plan should not vary radically from any good housing design, another felt that the different needs are an individual matter, and another felt that it was a bad idea to segregate the aging, but that protection should be taken against forced association of the aging with large numbers of small children.



Robbins, I. S. Housing for the Aged. Governor's Conference on the Problems of the Aged, August 30, 1955. (Pamphlet.)

Improvement of housing for any segment of the population is dependent to a large degree on more and better housing for everyone. Though most elderly persons prefer their own homes, and this is desirable because of the sense of security it provides, often it is impracticable for them to do so. Their quarters are not built to ease household chores, there are no safety features, nor convenience "extras". In housing projects, the aged should not be placed in apartments facing a central court or a playground, as the aged may be disturbed during their afternoon naps or when they go to bed early. In New York City the additional equipment and features in special apartments for the aged - special tile, light fixtures, electric stoves, radiation, etc. - add between \$400 and \$450 to the cost of each apartment. Design features of living quarters for the aged: 1) Complete dwelling unit on first floor. Stairs should be wide and with low risers. 2) No dwelling unit for couples should contain less than one bedroom. Continuous use of living room as bedroom is to be avoided, especially if there is sickness. 3) Care in the illumination of stairs and the hazardous areas - halls and passageways. Fixtures should be easy to reach. 4) Flooring of non-slippery material and easy to clean. 5) No exposed radiators or pipes, especially in bathroom. 6) Equipment should be of a proper height to avoid bending or climbing on chairs or ladders. 7) Labor saving devices, such as mechanical refrigerators and incinerators should be provided. 8) Handrails should be provided on or near bath tubs and toilets. 9) Windows easy to operate and clean. 10) Electric stoves are preferable to the gas types; however, the fact that the aged are more familiar with gas, it's versatility and it's economy should not preclude it's use. 11) Wide doors for wheelchairs. Doorsills eliminated. 12) Floor plan and windows oriented to permit good penetration of sunlight into living room, especially in winter. 13) Central heating a necessity, cross ventilation desirable.

Robertson, N. "U.S. Gets Advice of Swedish Architect to Aid 14 Million," New York Times (May 7, 1958), p. 39.

Bo Boustedt has designed and decorated forty homes for the aged in Sweden. His emphasis is on coziness, big windows, open fireplaces at eye-level, skid-proof scatter rugs, quiet wall colors, direct lighting, indoor plants, subordinate sleeping area.

Solandt, D. Y. "Provision of Adequate Illumination," Construction and Equipment of the Home. Public Administration Service, Chicago, 1951, pp.16-32. Biblio.

Faulty illumination can lead to eyestrain which may lead to functional disturbance of other organs. Both natural and artificial light must be considered in evaluating illumination. The standards must include consideration of quality and distribution of light on task at hand and on the adjacent region within the visual field. Orientation of house for utilization of natural illumination is as important as it is for maximum advantages of heating or cooling effects. Relationship of window areas to floor areas, placement and proportion of windows, height in relation to width, and their location all are important. Attention must be given to the interior treatment of any room to avoid glare or

brightness contrast that is too strong. Use of color influences illumination directly as does use of blinds and hangings. Selection of type of light source best adopted to specific requirements is essential, since each type varies in its distribution of light upward or downward and in its total efficiency.

Sparkman, John. "The Growing Need for Housing the Aging." Reprint from the NAHB CORRELATOR (March, 1956), 4 pp.

Site and Development of Housing for Aged: 1) Away from sources of industrial fumes, dust, smoke, heavy traffic. 2) Not in an area exclusively for the aging, but a typical residential neighborhood. 3) Convenient transportation. 4) Minimal grades and level approaches to avoid steep walks, ramps and stairs. 5) Available outdoor area: parks, private outdoor sitting area and small gardens. Construction and Facilities of Dwelling Units: 1) Ground dwelling unit with hand-rails at steps and ramps. 2) Reduction of fire hazards. 3) Two exits to outside easily accessible to older persons. 4) Orientation for sunshine, light, ventilation, and pleasant view. 5) More and better light, both artificial and natural. 6) Heating system capable of providing a temperature higher than 65 to 70°F. 7) Walls and ceilings between apartments should restrict noises. 8) Floors smooth but non-slippery. Door thresholds and changes in level undesirable. 9) Unit design should minimize walking and provide easy access to storage space without bending or reaching.

Stern, Edith. "Our Design for Comfortable Living," Lifetime Living, III (August, 1952), pp. 40-44, 62.

Couple designed own home for later years, incorporating special features: level plot, low exterior upkeep, accent on interior, armchair in bedroom, adjoining kitchen and bedroom, telephone on jacks, no metal polishing, wall-to-wall carpeting, functional furniture, simple fabrics, easy cleaning, low-hung kitchen cupboards, and gray bathroom floor tiles.

Steinle, John G. and Associates. "Home Care and the Housing Needs of the Aged," New York State Program in Housing. New York State Division of Housing, 1958, 56 pp. Biblio. See section I.

Stichman, H.T. "A Realistic Approach to Housing for the Aged," American City, XLVII (February, 1952), p. 151. See section II.

The Architect Looks at Housing the Aged. Housing Research Council of Southern California, Inc. (n.d.) See section VI.

"The Over-65 Have Housing Problems," American Builder, LXXV (November, 1953), pp. 58-64. See section III.

United States Department of Health, Education and Welfare. The Older Person in the Home. Public Health Service Publication No. 542, Washington: United States Government Printing Office, 1957, 34 pp. Biblio. See section III.

"Who Will Build for the Nation's Aged," House and Home (July, 1955), pp. 136-137. See section II.

Wilson, K. "The Count Never Had It So Good!" Lifetime Living, II (June, 1953), pp. 33-37, 69. See section VI.

Winslow, C.E.A. "Housing Our Aged," Growing with the Years. New York State Joint Legislative Committee on Problems of the Aging, Legislative Document (1957) No. 81, 159 pp., pp. 124-125.

Higher room temperatures are a necessity for older persons - higher than 68 to 75°F. Bath tub should be low with strategically placed grab bar. Storage shelves are most easily accessible at a height between 27 and 63 inches above the floor. Older people require more effective light; glare is to be avoided and electric lighting should be controlled by easily accessible switches.

Winslow, C.E.A. "Problems of Heating and Ventilation," Construction and Equipment of the Home. Public Administration Service, Chicago, 1951, pp. 5-15.

The chief objective of air conditioning is adjustment of thermal factors which influence heat loss from the body. An automatic air change of 10 cubic feet per minute per occupant removes objectionable body odors and atmospheric contaminants. Kitchen stove should have a hood and gravity duct to outside air plus an exhaust fan to avoid cooking odors and deposit of moisture on windows and walls. Dwelling should be neither too hot nor too cold. Resistance to upper respiratory infection is lowered when body is chilled. Heat loss from the body is determined by air temperature, mean radiant temperature, air movement, and relative humidity. The optimum temperature varies with age, sex and physiological status of the individual, his physical activity and clothing worn. It should be possible to maintain in every habitable room a temperature of 75°F. at a 3 foot level and a vertical differential not exceeding 10°F. Air conditioning in the home can be satisfactory and more economical if proper attention is paid to orientation of dwelling to sun, wind, adequate insulation, and the heat capacity of materials used. Protection against excessive heat in summer is also important.

F. NEIGHBORHOOD AND COMMUNITY FACILITIES

"American Society for the Aged." Conference on Retirement Villages of the Aging. February 21-23, 1958, 9 pp. Mimeo.

A prospectus of the conference based on prepared papers circulated to participants in advance of meeting. Objectives of conference:

1) Examination of typical patterns of existing retirement villages, including location, housing design, their organization and operation, their services and financing. 2) A formulation of significant questions for research. 3) The development of a research project on a comparative study of selected retirement villages. 4) The planning of a report of the conference for publication. Historical trends are traced from county poor farm, through homes for the aged and nursing homes to retirement villages. Retirement villages may be classified according to their sponsorship, by location, by types of services, by type of provision for residents, and by housing design. A tentative list of patterns of residential villages considered for selection as representative of different types of housing are residence halls, detached apartments, single dwellings and lodges, single homes, trailer park community, multi-housing units, single home projects under private enterprise. Two alternatives to retirement villages are hotels for retired persons at low rates and housing projects for older persons in their own community. There are four patterns of financing retirement villages: private agency, private commercial, governmental, payment by residents.

"Apartment for Teachers." Newsweek. (May 26, 1952), p. 86. See section II.

"Cleveland Authority Assists Aged." Journal of Housing, N.A.H.R.O. (October, 1955), pp. 352-354.

The Cleveland Housing Authority spearheaded the opening of the Golden Age Center by allotting 5600 square feet of space on the ground floor of its Cedar Apartments for free use of the Center. In addition, 100 of the 156 units of new wing in this project are set aside as housing for aged persons.

Coffin, T. "Retirement Housing Offers New Market." Nation's Business, XLIV (May, 1956), pp. 14-17.

Retirement housing is becoming a building boom across the country. Retirement villages at North Cape May, New Jersey, Ormond Beach, Florida, and Salhaven at Palm Beach, Florida, are described briefly. Some practical advice has come out of the experience with these villages: a well constructed house is important; a carefully planned community attracts the elderly, they want to be near community facilities away from industrial smoke and noise; inconspicuous safety devices are appreciated; modern appliances and a good heating system are essential; the elderly want a small lot but big enough for a garden. Financing is not a big problem; private lenders are becoming more willing to make mortgages to people over 65.

Cole, A. M. "What the Aged Need in Their Homes." New York Times Magazine (August 4, 1957), pp. 11, 20, 23. See section V.

Dean, J. P. "The Neighborhood and Social Relations," Forum on Neighborhoods. Philadelphia Housing Association (April, 1958), 5 pp.

The development of different kinds of social relationships in a residential area depends on a) the composition of the family and the activities, organizational ties, and social habits of the individual members, b) the types of families and individuals living in the locality, the organizational life of the area, and the nature of the informal social activities and interactions that take place there. For the aged, the neighborhood needs are quite different from those provided by existing housing facilities or by a return to the horse-and-buggy concept. Neighboring arrangements that provide a certain amount of shared living quarters, shared bathing facilities, shared food preparation, joint recreational facilities, etc., are worth considering. There is such a varied number of family types, depending upon their position in the life cycle that the neighborhood concept for each is different. Changes in family patterns and values also have significance for the re-evaluation of neighborhoods and neighboring. Findings of research on neighborhood interaction and physical design: a) when residential layout and community facilities promote high levels of "neighborhoodness", the residential area may have great impact on family life, b) where they do not promote neighborhoodness, the residential area will serve primarily a dormitory function. Four aspects of physical design that are most crucial to neighborhoodness: 1) Proximity and orientation of dwelling units that foster easy access. 2) Pattern of circulation that promotes frequently recurring contact opportunities. 3) Location of casual contact centers that tend to bring residents together. 4) Provision of physical facilities that provide a convenient location for the commercial and social services, and various types of organizational life needed or desired by residents.

Donahue, Wilma and Ashley, E. Everett, III. "Housing and the Social Health of Older People," 16 pp. (n.d.) Mimeo. See section III.

Donahue, Wilma (ed.). "Programs in Action," Housing the Aging. Ann Arbor: University of Michigan Press, 1954, 200 pp., pp. 243-272.

Moosehaven at Orange Park, Florida, has an area of 68 acres with river frontage of over a quarter of a mile. Residences are all located so that they have an open view of the St. John's River. The major houses of one story brick veneer on the campus accommodate 12 to 58 persons each. Each has its own dining room, kitchen, spacious living room and several large screened porches.

Religious Groups: Home for the Aged and Infirm Hebrews in New York is a group of buildings of which the nucleus is the Central Building on West 105th Street, New York City. It has accommodations for 364 residents and an infirmary of 70 beds. Included in the central building are kitchens, laundry, open-air garden, occupational therapy shops, tailor shop, beauty shop, barber shop, synagogue, library, smoking and game rooms, and a spacious club room equipped for motion picture, theatrical, and TV exhibitions. Within walking distance of the Central Building are two groups of apartment residences with private accommodations for 150 men and women. Married couples occupy double rooms, single persons have rooms of their own. Residents share communal dining room and common sitting rooms for recreation, and arrange house rules and entertainment themselves. Mary Margaret Manning Home, operated

by the Carmelite Order in New York City is a very large plant consisting of a number of floors and wings accommodating both married couples and single men and women. Throughout the building there are kitchenettes for fixing light meals and snacks; a generous number of sitting rooms, small porches that open to the outdoors high above New York City; wide, well-lighted corridors; special recreation rooms, and libraries; theater, hobby shop, and chapel. There is an unusually well-equipped rehabilitation center under the guidance of a physician skilled in physical medicine. Methodist Home, Charlotte, North Carolina, is a large well-equipped central building that contains common dining rooms, infirmary, sitting rooms, recreation halls and theater, chapel, occupational therapy room, and store. It houses approximately 150 people in individual rooms with private baths. Nearby is a row-house development in which there are one- and two-bedroom units. These residents may prepare breakfast and supper but are expected to take their noon meals in the main dining room. Great attention is given to the planning of social and educational programs to meet the needs of the residents. Presbyterian Village in Detroit is located on a plot of 35 acres outside the city limits but in the midst of a new suburban shopping center and community. Four types of housing are planned: row housing of one- and two-bedroom units; detached cottages built by individuals (later to become church property); apartment type buildings providing single rooms or suites and including a central dining room; and an infirmary unit. In addition, there will be buildings with recreation rooms, hobby and sheltered workshops, a church, and a dormitory for the staff.

Other Housing Projects Under Voluntary Sponsorship: Tompkins Square apartment building contains 44 single rooms and 8 two-room apartments for both single and married people. Rooms are furnished or unfurnished as desired but have no kitchen equipment, though kitchen and refrigeration facilities are available in the building for the use of each resident. There is a cafeteria which serves three meals a day at cost. Other facilities that residents share are common sitting rooms, a roof garden, and a basement laundry. Santa Barbara Rainbow Cottages is a row-house project of rental housing. Each living unit consists of a living room, bedroom, bath and kitchenette of the pullman type. Rent is \$30 per month including utilities. Construction of houses is frame with stucco exteriors topped with cedar shake roofs. Each of the five buildings is painted a different color. Inside, the walls are plastered, floors are cement, bathrooms have shower stalls with seats. A stove and refrigerator only are furnished. Living room-dining area is 10-1/2 by 16-1/2 feet, bedroom is 9-1/2 by 9 feet. Two closets and drawers for linen are built in, plus an ironing board.

Public Housing in New York City: Fort Greene Public Housing Project has 54 one-person apartments. Each has an area of about 150 square feet divided into a large living room, kitchen and bath.

"Housing For the Aged," Journal of Housing (February, 1956), pp. 5-7.

A description of a state-aided project in Waltham, Massachusetts, operated by the city housing authority. It is located downtown convenient to neighborhood facilities. The average living area is 360 square feet, comprising a living room, a kitchen, bath, front and back entrances,

and bedroom. Very few objections voiced by residents to second floor apartments by reason of physical inability to climb stairs. Majority of single women said they preferred living on second floor.

Housing of Special Groups. A Report by the Scottish Housing Advisory Committee, Edinburgh: Her Majesty's Stationery Office, 1952, 99 pp. See section III.

Ladimer, I. "Housing and Health Facilities for Our Senior Citizens." Public Health Reports, LXVIII (December, 1952), pp. 1196-1202. See section III.

Mumford, L. "For Older People - Not Segregation But Integration." Architectural Record (May, 1956), pp. 191-194. See section III.

"Neighborhood Villages for the Aged Proposed." The American City, XLVI (December, 1951), p. 163.

A sponsored neighborhood village plan by large employers and labor unions is to be built in Florida especially for retired workers in partial solution to the problem of planning for an aging population. These communities are planned as satellites to larger communities. The neighborhood village will be large enough to bring together a wide variety of tastes and social attitudes and make pleasant social relations possible, not self-sufficient, yet protected from surrounding communities to provide quiet and congeniality of atmosphere.

Nims, R. "Designing A Retirement Village," Conference on Retirement Villages, American Society for the Aged, Inc. (Palm Beach, Florida), February 21, 1958, 4 pp. Mimeo.

The chief concern is to create an environment which offers the same opportunities to the retired individual as it does to the individual not yet retired. The design should take into consideration the deteriorating physical abilities of the aged. To promote gregariousness within the village and outside it, care must be taken in locating it near a large enough community to encourage this. The intent in a new retirement village is to integrate the individual into his specific environment and into his total environment.

"Old People's Homes on the Lansburg Neighborhood, Poplar," Architect's Journal, CXV (January 10, 1952), pp. 49-52.

The home, part of new Lansburg neighborhood in England, provides accommodation for 49 old persons of both sexes. Designed to avoid a suggestion of an institution by its intimate and domestic character, the residents do not feel segregated from the life of the neighborhood.

"Ryderwood, Washington, A Thriving Community for Retired Workers," Aging (January, 1954), pp. 2-3.

A former logging camp has been reconditioned by a group of business men to be sold to retired men. Sales were limited to those with incomes of between \$135 and \$250 per month. The town is run by a separate corporation organized on a non-profit basis with each property owner having one vote. It provides electricity, water, sewage, garbage collecting. Stores and shops are in operation and are run by residents.

Sparkman, John. "The Growing Need for Housing the Aging," Reprint from the NAHB, Correlator (March, 1956), 4 pp. See section V.

"The Architect Looks at Housing the Aged." Housing Research Council of Southern California, Inc. (n.d.)

Studies indicated that homes for the aged are best located in urban or suburban areas where residents may become an integrated part of the community and participate in community life. Two major errors encountered by the Housing Research Council in projects for the aged are the overlapping of automobile and pedestrian traffic and the location of service and delivery yards in center of plot producing unpleasant noise and odors in the project. The design features should be oriented toward making life of the aged comfortable, safer, and easier. Functional design, permanent materials, and sound construction mean less maintenance, low replacement cost and high resale value.

"The Senior Citizens Fund Story," Kalamazoo, Michigan, March 1, 1950. See section III. 6 pp. (Pamphlet.)

Vivrett, W. K. "Designing a Retirement Village," Conference on Retirement Villages, American Society for the Aged, Inc. (Palm Beach, Florida), February 21, 1958. 22 pp. Mimeo.

In this paper is examined the form of the village in the light of retirement life and of the characteristic needs of retired people, as individuals and as social groups. Also, the village housing is examined in the light of individual needs and probably patterns.

Wilson, K. "The Count Never Had It So Good," Lifetime Living, II (June, 1953), pp. 33-37, 69.

Sixteen hundred Florida acres have been developed into modern retirement estates - Plantation Estates, halfway between Daytona Beach and Orlando, Florida. Most homes are of concrete-block construction, some stuccoed. Each is equipped with electric range, water heat, individually drilled well. Ceilings are insulated, floors are rubber tile on concrete slab, though wood floors are available for those who prefer. Social activities of the residents are mostly inter-community.

Zeman, Frederick, E.M.E. "The Medical Organization of the Modern Homes for the Aged." Journal of Gerontology, V (July, 1950, pp. 262-265.

This is a survey of the medical organization of a modern home for the aged. The relationships of old age institutions to general hospitals and to hospitals for chronic diseases are discussed. It is important for well-being of aged patients that there be close cooperation with social services.

"Zoning for Shelter Care Facilities Serving the Aging," Welfare Planning Council, Los Angeles Retion (January 5, 1956).

It is desirable for elderly citizens to be located close to familiar surroundings, relatives and friends, the community resources they have been accustomed to - church, banks, doctors, etc.



## APPENDIX II

Annotated Bibliography on Design Features for the Disabled

American Heart Association. The Heart of the Home. New York: American Heart Association, 28 pp. (n.d.)

This booklet is designed to help the homemaker find easier ways of doing her work. Sections on body mechanics, work simplification, and a check list for a motion study. A pictorial supplement shows the floor plan and photographs of the Heart kitchen planned by the New York Heart Association. Particular areas in the kitchen covered are the sink, mixing center, storage space, stove and the activities of cleaning and ironing.

Johnson, M. "An Investigation of the Opinions of Florida Homemakers, with Certain Physical Handicaps, Concerning Their Living Quarters." Unpublished M.S. thesis, Florida State University, Tallahassee, Florida, 1952.

A summary of the investigation: Ranges should be near mixing center and convenient to dining area. More respondents (8) felt safest on carpeted floors than on any other kind, while five homemakers chose unfinished hardwood as the safest. Linoleum was easiest to keep clean in the opinion of ten respondents. Going up and down stairs is the greatest difficulty for older people. Narrowness of doors for wheelchairs and walkers were the chief complaints about present housing. Recommendations for improvement in planning homes for homemakers with physical limitations: Ramps, ground level house, no steps or stairs, steps not too far apart, handrails on both sides of steps, sliding doors, no door sills, few doors as possible, wide doors for wheelchairs, door knobs easily accessible to wheelchair users, all areas of all rooms large enough to accommodate a wheelchair, conveniently placed outlets, lower shelves, pull-out shelves, drawers, and boards. Changes made by homemakers themselves in present home: Bathroom - handrails, seat in tub. Kitchen - changed position of electric outlets to waist height, kneehole cabinets for wheelchair, placed sink next to stove so pans could be slid to and fro. Oven cooking presents a problem to the wheelchair user who cannot reach into oven if the door is open and cannot reach backboard controls from wheelchair. Top-opening washers and dishwashers for wheelchair. Side-opening washers and dishwashers present a problem to those with artificial legs and those wearing braces. Special purpose units - revolving corner base units, sliding table, sliding pan racks, roller-bearing shelves pull out for easy access. Magnetic racks for small metal kitchen items if people have trouble hanging them on hooks.

Lawton, E.B. Activities of Daily Living: Testing, Training and Equipment. Rehabilitation Monograph X. New York: The Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center, 1956. 59 pp.

A program is established for testing patients in their ability to perform activities normal to daily living. A sample worksheet is

provided to record the patient's progress in the various activities. One section is devoted to a description of a training activities daily living room consisting of bedroom and bathroom area and associated equipment.

Neef, Gertrude. "A Study of the Daily Activities of Ten Homemakers Confined to Wheel Chairs with the Factors Involved in Their Abilities to Adjust to Their Physical Handicaps." Unpublished M.S. thesis, Cornell University, Ithaca, New York, 1954, 111 pp. Biblio.

The purpose of this study was to analyze the daily activities of handicapped homemakers in view of limitations of disability, household equipment, and housing. Ten case studies are included. Findings include sections on description of families, time spent in daily activities, physical abilities in relation to housework, limiting factors in housing, limiting factors in equipment, equipment and devices most helpful to the homemaker, household tasks, and leisure time activities.

Robb, J. H. "Houses for the Handicapped and for the Aged," AIA Bulletin, V (November, 1951), pp. 2-3.

Handicapped and aged have similar problems - locomotion and need to avoid exertion. Though many needs of both handicapped and aged are psychological rather than physical, architect can help meet them through the use of space, color, and design.

Rusk, H. A. and Taylor, E. J. Living with a Disability. New York: The Blakiston Company, Inc., 1953. 207 pp.

A compilation of techniques, self-help devices and gadgets that will aid disabled persons in the performance of daily activities of life and work. This material was gathered through two study projects: Self-Help Device Research Project in cooperation with the National Foundation for Infantile Paralysis, and the Disabled Homemaker's Research Fund Project.

Rusk, H. A., et al. A Manual for Training the Disabled Homemaker. Rehabilitation Monograph VIII. New York: The Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center, 1955. 167 pp.

The purpose of this manual is to provide information on "who" can help the handicapped, "what" kind of help they can give, "why" their assistance should be sought, "how" their aid may be obtained, and "where" they can be located. The material in the booklet is based on four years of research and experience in training disabled homemakers on the Physical Medicine and Rehabilitation Service at Bellevue Hospital and at the Institute of Physical Medicine and Rehabilitation of the New York University, Bellevue Medical Center, and on the experience of individuals and organizations working on similar projects throughout the country.

The Team Approach to the Rehabilitation of the Handicapped Homemaker,  
Work Shop Proceedings, May 31-June 3, 1955. The School of Home  
Economics in cooperation with the Division of University Extension.  
Storrs, Conn.: University of Connecticut, 24 pp. Biblio.

A report of a three-day workshop of representatives of nine professional fields that considered possibilities and problems in the team approach to the rehabilitation of the handicapped homemaker. The most significant contributions in each field are included in the report, along with recommendations for the future, bibliography of books and films, list of organizations and educational programs concerned with handicapped homemakers.

Current bibliographies on the design and planning requirements for the physically disabled are also available from the National Society for Crippled Children and Adults, Chicago, Illinois.