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## Places

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### Author

Regnier, Victor

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## An Environment-Behavior Model of Alzheimer Special Care Units

One of the critical priorities in the design of housing for older frail people is the development of residentially based housing and service arrangements for people with Alzheimer's disease and other forms of dementia. The current facilities in the United States available to this population are primarily nursing homes and health care facilities. These settings by definition and by regulation are designed to deal with the problems of aging as if it was a medical problem. Older people with dementia often do have chronic health problems but dementia by itself is not a health care problem. In this country we have dealt with memory loss by institutionalizing hundreds of thousands of older people whose only problem is an inability to remember.

The new technologies, medications and procedures that have allowed us to identify medical problems earlier and lengthen life have also increased the chances that older people will eventually succumb to some form of memory loss. The prevalence of dementia increases dramatically with age. Currently, 30% of those over age 85 suffer from some form of dementia.

In addition to the enormous cost burden associated with the growing size of this population we also must shoulder the burden of knowing that we are taking care of people with dementia in places that don't fit their needs and often rob them of autonomy, choice, privacy and dignity.

This dilemma is in part why this research is so important and so timely. Currently, it is difficult to find residential units which meet the criteria outlined in this research. However we are experiencing a boom in the construction of housing for people with dementia. Some of the buildings are sensitive to the criteria Zeisel has tested which when followed generally lead to more choice laden residential environments. However, many providers do not recognize the importance of making these settings more flexible and homelike and are comfortable with status quo institutional solutions.

Added to this dilemma is the single prong approach we have taken toward Alzheimer's disease—an approach which relies primarily on drug therapies for intervention. Although we may discover a cure for Alzheimer's disease in the next decade, to date, the drug regimens

available prolong dependence rather than cure the disease. Given this outcome, it is imperative we pursue other approaches to therapy. Using the design of the environment to productively engage and calm residents while improving their quality of life is both creative and practical.

Zeisel's approach to design research is significant in a number of different ways. To begin his research he sought consensus from colleagues through an expert rating methodology he had successfully pursued in past research. Using this data in conjunction with his own keen sense of intuition he identified 8 environmental characteristics that were associated with specific patterns of use. Each of these characteristics taps a significant dimension of the designed environment. Collectively, they provide a clear philosophy for design development. His identification of these characteristics not only qualifies their application but creates clear design directives that are easy to apply or to identify in existing environments. This is a trait of much of Zeisel's past work which serves both design and research audiences. He knows his work will have limited utility unless researchers can further test its potential and designers can immediately apply the findings.

The second half of this research program pursues a test of the validity of these design characteristics by correlating them with 10 health related outcome measures. This is potentially a very difficult task given the infinite range of environmental possibilities associated with a designed environment. However, Zeisel's 8 environmental characteristics are both specific and universal. They include variables such as exit control, walking paths, residential scale, and access to outdoor spaces that govern important design and functional attributes of the setting. When correlated with health related variables one achieves a better idea of how attributes of the environment can affect the physical and mental health status of residents.

The research also addresses methodical conflicts like the dilemma of testing subjects and/or environments. Fifteen settings which provide housing for 426 residents are utilized in the research. He analyses the data in ways that target both the building design and resident behavior.



A living room ambience and destination is an important part of an Alzheimer Special Care Unit. A hearth and sitting area increases a resident's sense of control and decreases aimless wandering.

Photo: John Zeisel

Over the past 5 years Zeisel's research program has provided me with useful insights regarding the design of several buildings. His ability to relate research findings to design decisions makes the work particularly valuable. It should also be mentioned that Zeisel has tested his own work through the construction of Hearthstone facilities. These are buildings his company either owns or manages for other sponsors. When you walk through a Hearthstone design it is clear that the half walls, the fireplace, the kitchen bar, the outdoor garden, and the corridor system fit his interpretation of this model. His research also benefits from his own experimentation.

The only aspect of the work which appears incomplete is the assessment of the value of outdoor spaces. My design experience and many of the creative features of Zeisel's buildings revolve around the skillful use of outdoor areas for exercise and recreation. I have found outdoor spaces to be important in the US and in other cultures because they provide a relief valve for frustrated behaviors and because many activities of daily living can be dealt with successfully in this context. I suspect future research will reveal aspects of outdoor space use which make the research even more valuable.

In summary, Zeisel's work is valuable because in the truest sense of environment-behavior research tradition it informs both the researcher and the designer of new ideas and insights. Furthermore, Zeisel's approach to testing his own ideas in laboratory form and working

with colleagues utilizing Delphi methods enhances the communication of outcomes to a range of users.

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