

**Transforming the Environment of the Aged:
A Journey Towards Inner Growth**

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by

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A thesis submitted to
The Faculty of Graduate Studies
in partial fulfillment of
the requirements for the degree of

MASTER OF ARCHITECTURE

M.ARCH. (Professional)

Carleton University
OTTAWA, Ontario
April 2007

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Abstract

This thesis investigates the potential of the built environment to stimulate the emotional intelligence of an increasingly aging population -- much of which experiences impaired memory. Given the demographic of baby-boomers, an increasing proportion of the population will leave their homes in the next decade, moving to retirement communities, independent living facilities and extended care facilities. Designing for this demographic presents an opportunity to rethink assumptions about aging as well as to consider how the terms of reference have changed as individuals live longer. While the process of aging is inevitably accompanied by health, mobility and memory-related challenges, aging is not synonymous with illness. Advances in medicine mean that individuals may now deal with and overcome numerous health issues as they age -- transitioning from periods of limited mobility back to full mobility.

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1.0 Introduction

A person's health evolves continually between the loss of equilibrium and the search for a new point of stability. For an increasingly aging population¹, illness and memory impairment are growing concerns. While aging is not synonymous with illness, the elderly are generally more susceptible to periods of poor health. Advances in health care, however, are enabling individuals over 65 to live longer and cycle through repeated periods of illness and sound health.

The medical profession often emphasizes the disabilities of the elderly rather than supporting and encouraging development and improvement in their lives. It places "its emphasis on deficits, (and) conceals from us the actual life which is instinct in all cerebral functions – at least higher functions such as those of imagination, memory and perception. It conceals the very life of the mind – especially in a state of enhanced, and thus illuminated, activity."² Ironically the medicalization of aging can exacerbate the very health-related issues medicine may be trying to address. While advances in medical practice are enabling individuals to live longer, the health care system often removes individuals from communities and support groups and relegates them to environments bereft of qualities other than those that answer to the exigencies of medical practitioners.

¹ Today there is an influx being experienced by the demographic of persons considered to be in their 'retirement' years (around age 65 and up). There are two factors creating this increase in population; the large number of baby-boomers now ready to retire and the advances in medicine which lead to longer and healthier lives.

² Sacks, Oliver. The Man Who Mistook his Wife for a Hat: and Other Clinical Tales. New York: Harper Collins Publishers, 1985. page 89, lines: 9-13.

With the increase in demand for retirement living -- a function of better health care and the boomer demographic -- comes new possibilities for new kinds of seniors' communities. Until the mid 20th century the extended family was the primary social unit in North America and aging parents were cared for by the children with whom they lived. After World War II the number of households increased while the number of individuals per household decreased. As a result, an increasing number of retired individuals found themselves living on their own -- often at great distances from children who had not only formed their own households but left the communities in which they'd been raised.³

Housing policy after WWII privileged the family home as both 'nest egg' and social safety net. Mortgages were calibrated to be paid off at retirement to permit individuals with diminished incomes to remain in their homes. The configuration of most of these homes (size, number of levels, climate, etc.), however, made them less than ideal as environments in which to negotiate illnesses and mobility impairments associated with aging. Pre-boomer retirees held out for as long as they could, moving (or being moved) to nursing homes only when insurmountable infirmities set in.⁴

The circumstances in which retiring boomers find themselves, however, are significantly different. Real estate values for housing have increased exponentially since the 1970s in both urban and suburban eras. As a result most boomers will not only have paid off their mortgages by the time they retire but will have accumulated significant additional equity

³ Stevenson, Karen. "History of Long Term Care." ElderWeb. ElderWeb, 1994-2007. <www.elderweb.com>. Under "1800-1899: Families Disperse and Children Move Away". Paragraph 1-2

⁴ Stevenson, Karen. "History of Long Term Care." ElderWeb. ElderWeb, 1994-2007. <www.elderweb.com>. Under "1940-1949: WWII". Paragraph 1-2

in their homes. These individuals have both the flexibility and the incentive to move – whether elsewhere in their communities, closer to their children, or to “sun belt” areas where it is possible to get more for your investment in real estate.

Boomers buying into retirement communities are looking to capitalize on this equity, relieve themselves of the responsibility of caring for large homes, free themselves to travel (both for pleasure and to visit children), and move to flexible, high-quality dwellings whose size and layout is suitable for negotiating mobility issues as they age. They are also keen to be in close proximity to hospitals, doctors’ offices, and to have access to a range of community services to effectively negotiate periods of illness over extended periods of time. They want an environment that not only serves them “in sickness and in health,” but that promotes health, healing, caring and community. A unit in an “independent living building”⁵ could be the next step in the lives of many baby-boomers.

Because longer periods of one’s life are being spent in retirement and because sickness and wellness are dealt with over longer periods of time, the design of retirement communities must transform. Moreover, the numbers of individuals retiring in the next few decades coupled with the resources they will bring to bear on this undertaking means

⁵ An independent living building is a part of a seniors’ housing arrangement which promotes living conditions that maximize the independence and self-determination of the individual. The concept of “independent living” and the associations that it calls up today actually began around 1950 with the realization that it was sometimes better to be cared for at home in a more independent setting. But the term became more widely used in the mid-1970s when the New York Rehabilitation Act in was passed in support of persons with disabilities and their rights to control decisions in their own lives. Since then, the term has been associated not just with the disabled, but seniors as well. The persons living in the retirement community proposed in this study would enter at about age 65, be self-sufficient, fairly healthy and fairly active.

new paradigms are possible. The nursing home is no longer the default solution. This thesis envisions a stimulating, challenging and well-considered environment -- designed to foster a positive outlook and promote continuous inner growth in face of the challenges of aging.

The design portion of this thesis is intended, in part, as a prototype for a new generation of retirement communities. As such, the intention is to demonstrate how environments for the elderly might differ from current models. This project functions an example of an alternate independent living building against which to assess opportunities and adapt projects to specific needs and site characteristics. It is intended as an adaptable alternative to the banal and sterile environments currently available to the elderly. To test the success of the design solution one could present it to the potential client base (seniors in a particular area) and gauge their reaction to it and their interest in it.

1.1 An Aging Scenario

It should be noted that the factors driving the design and demand for seniors' homes today are different than in previous decades. As noted above, it used to be that people would naturally stay with close family or relatives as they aged. The family structure would vary at times (i.e. older children may be living with and caring for senior parents), but there was never a consideration of sending relatives away to an 'old folks' home. Consider how the concept of 'wise elders' living with the family (where they cared for the family and were cared for in turn) has evolved. Today we consider how most

effectively to deal with the ‘problems’ surrounding an elderly member of the family and/or how to get out from under the ‘burden’ of caring for them (busy working families don’t have the time or resources to devote to this). It is also now more common for immediate family members to be living at great distances from each other. Together, these and other factors add up to greater numbers of people who are on their own when it comes to making living arrangements as they age. Retirement homes, assisted living facilities, and long-term care centres are now responding to this requirement.

The following is an example aging scenario⁶ for a married couple:

- Age 60-65
- empty nesters look forward to retirement
 - they are active and in good health
 - they downsize from a large home to a smaller townhouse closer to the centre of the city
 - they capitalize on their freedom by traveling more frequently and for longer periods, etc.
- Age 65-70
- the couple may decide to relocate to a warmer climate where it’s possible to be active (e.g., walk and play golf) year round
 - they may purchase a unit in a retirement community where they can live on one level (due to the early stages of health decline)
 - both are more interested in social activities and staying in touch with the family. They may retire to a location where family are likely going to want to visit them.

⁶ Healthwise. “Retirement or Senior Stage of Life.” WebMD. Boise, ID: Healthwise, 1995-2006. <<http://www.webmd.com/healthy-aging/guide/retirement-or-senior-stage-of-life>>.

- Age 70-80
- each spouse goes through periods of sickness
 - much of their time is spent dealing with doctors appointments, treatments, etc.
 - they sometimes need help with day to day activities such as cleaning, laundry, or meal preparation
 - one spouse becomes seriously ill and demands the full-time attention of the other. He or she ultimately passes away.
 - the widow(er) re-enters society as a single person, often engaging in new or unfamiliar activities. He or she creates a new community of friends.
- Age 80-90
- more nursing care is needed leading to a possible move into a long-term care facility

Throughout adulthood one purchases homes, raises children, pursues careers and accumulates material possessions. When approaching retirement one becomes increasingly reflective and more interested in pursuing experiences and social connections than wealth or goods. One may rediscover an interest in church and religious activities. People heading into retirement privilege quality over quantity. In terms of choosing a place to live, they must consider the inevitable changes (both positive and negative) associated with aging.

One's choice of dwelling later in life may thus differ significantly from what one might have chosen earlier. Despite its potentially negative connotations, an independent living community may emerge as a viable choice – especially to the extent that the combination

of environment and services it provides can augment the quality of life as one negotiates inevitable changes. An architecturally unique senior's home should be both memorable and able to stimulate the minds of its inhabitants. Its design must address the fact that, while bodies may be failing, minds are still capable of learning. Indeed a stimulating environment may mitigate the loss of memory and the degradation of the body.

1.2 A New Retirement Community

Older models of seniors' homes were very segregated. One would have expected to move from one facility to another (such as from a retirement home to a nursing home) as one's needs changed. Among the pre-existing models are the golf community (an active retirement community but lacking in medical resources), the nursing home (focused on caring for individuals who need 24 hour assistance), the hospital (care for those who are very unstable medically) and the hospice or palliative care facility (for those who are close to death).

Newer models of seniors' communities provide a more integrated variety of services in an attempt to accommodate residents over a longer period of time. The form and scale of these facilities varies depending on where they are built. Variations run the gamut from discrete residences within large, pre-existing communities like Ottawa (see Presentation Senior Community case study) to entire communities designed from scratch (e.g., Celebration, Florida), which accommodate a variety of living arrangements, recreation opportunities (golf courses, walking paths), encourage an integrated demographic (by

incorporating elementary schools, etc.), and offer a range of community and health care facilities.

With respect to the design of an independent living community, the following are identified as priorities:

1. A long-term relationship with a community that supports its residents in different lifestyles (i.e. in sickness, recovery and full health), with a range of facilities and service plans.
2. A facility that can accommodate visitors who come and stay for periods of time – including grandchildren.
3. A variety of health care and services available within the immediate community.
4. A variety of living arrangements to permit residents to stay in the community longer (for example, where couples can move in together but in which one member of the couple can continue to be supported after the other passes on).
5. The building/community should be well integrated into the larger community.
6. It should promote learning, recreation and healthy lifestyles.
7. It should be an architecturally stimulating environment – especially responsive to those with mobility issues (i.e. respond to someone who is often confined indoors and facilitate both communal and private activities)

2.0 Background

As mentioned in the introduction, memory and health are key concerns for the elderly. These should be addressed in both the research and the design portions of this thesis. In order to understand how memory and health can affect the elderly and how aging individuals can overcome many of the challenges, this thesis will examine these topics in greater detail.

Memory and health give rise to a number of related considerations, such as the concept of inner growth. Inner growth describes the way individuals apply meaning to their lives in relation to experience and context – it is a process of learning based on reflection. Related to this is the concept of the “momentous event” -- a defining moment in a person’s life that provides a point of reference against which to adapt or change life patterns.

Two additional concepts are relevant in this regard, namely “healing and place” and “medicalization.” Both are important to consider when designing a building that accommodates individuals with health issues. The first considers the impact of place on the process of healing while the second refers to a tendency for health-care environments to privilege expediency over expressiveness.

2.1 Memory

“Our memories are endogenous, private, internal and controllable by our own minds; they capture events in the world as personal experiences.”⁷

Memory is a very personal phenomenon for everyone. It involves the ability to store, retain and recall information, and is relevant upon the experience of an individual.

Particularly vivid memories often come from new experiences and they accumulate through the interpretation of information brought in by physical and abstract realities of the world. One can remember how a particular sensation was felt through touch or remember how a particularly stimulating conversation became inspiring. Sensual memory relates to the physical and abstract memory to language.

How memory works in relation to the structures of the brain is still a bit of a mystery.

Right now it is not entirely clear where memory is located and how it is processed. This is an area that needs more research. Recent studies point towards memory being composed of componential and modular processes in the brain.⁸ This means that it is not located in one area but made up of several areas which are linked and have the ability to move memory around according to what kind it is.

⁷ Various Authors; Edited by Campbell, Ruth, and Conway, Martin A. Broken Memories: Case Studies in Memory Impairment. Cambridge, Massachusetts: Blackwell Publishers Ltd., 1995. pg xvii, lines: 3-5.

⁸ Campbell, Ruth, and Conway, Martin A. Broken Memories: Case Studies in Memory Impairment. Cambridge, Massachusetts: Blackwell Publishers Ltd., 1995.

One of the most important structures associated with memory and emotion is the limbic system. It contains several structures such as the hippocampus, amygdala and hypothalamus.⁹ Although this is the main system for memory, the mystery of memory location reveals itself further when other areas of the brain are injured. This is because there can occasionally still be damage to memory function.

There are several different kinds of memory. The first is semantic memory, which is used for everyday facts and information and is related to experience. The second is prospective memory or the ability to remember to perform something in the future. Third is short term memory which is used to remember information from a few minutes to a few days ago. And the last type is long term memory and this is where one can remember things going back several years.¹⁰

Memory is also an integral part to the concept of *inner growth*. This concept is different from the physical growth of a human being on the cellular level. A child's body continually grows and changes its outside appearance through the multiplication of cells until it reaches maturity. What continues afterwards and onwards from this point is the growth that can happen *inside*. This development happens within the mind where one can learn more about themselves, others, the world, and make new connections between them.

⁹ Alzheimer Society. Changes in the Brain. Toronto: Alzheimer Society of Canada, 1997-2006. <<http://www.alzheimer.ca/english/disease/whatisit-brainchanges.htm>>.

¹⁰ Baycrest. Memory Loss and Dementia: Types of Memory. Toronto: Baycrest, 2007. <http://www.baycrest.org/MemoryandAging/Session_1/default_18.asp>.

2.11 Memory Impairment

When considering memory impairment, this paper will focus on problems that occur with the natural processes of aging. Neuro-degenerative damage caused by Alzheimer's disease and other illnesses like this will not be considered in detail, although some environmental factors considered here may prove beneficial to these cases. As the body ages both general health and memory may be affected. So what is memory impairment in the elderly? Specific memory types are affected and one might experience more general and varied kinds of impairment. One theory posits that as humans age there is more neural noise to deal with. Neural noise is the general activity that takes place in the brain such as the noise that happens within the visual system. It is the transmission of signals in the central nervous system,¹¹ and can be thought of like the constant humming of an idling engine. In order to see something the stimulus has to be greater than this noise. For example, in order to see light the stimulation has to be greater than any interference caused by the neural activity. The increased neural noise which comes with aging may affect motor control and memory.¹² In "*Measuring the Mind: Speed, Control, and Age*" the authors suggest that, due to random errors or internal noise, cognitive aging shows up as an inconsistency in response time. This includes decreased accuracy and loss of response time when remembering things. Basically there is less information getting through and thus it takes more focus and attention to try to receive information.

¹¹ Hultsch, David F., and Hunter, Michael A., and MacDonald, Stuart W.S., and Strauss, Esther. "Chapter 2: Inconsistency in Response Time as an Indicator of Cognitive Aging". In book by Duncan, John, and Phillips, Louise, and McLeod, Peter. *Measuring the Mind: Speed, Control, and Age*. Oxford, New York: Oxford University Press, 2005. Reference to Hendrickson, 1982. 35.

¹² Gregory, R.L. *Eye and Brain: The Psychology of Seeing*. London: Weidenfeld & Nicolson Ltd, 1979. 90.

There is some conflict as to whether this really affects the *speed* with which the elderly process information. In the 1980s, theories about cognitive aging pointed towards the issue of the decline of the speed of information processing. Current theories focus on localized brain areas and the idea of ‘inconsistency’ in response to neural noise. Speed is now not the only measure of the decline of cognitive function as one ages.¹³ As noted in the following quote from Fergus Craik, the process of aging is quite variable:

“There is general agreement that age-related declines in memory and other cognitive functions are highly variable, with performance on some tasks (such as free recall, paired-associate learning, and source memory) showing large age-related decrements, whereas performance on other tasks (such as priming and recognition memory) shows very little change with age.”¹⁴

Different types of memory are affected differently by aging. Typically semantic memory is not affected; it remains stable or even improves with age. Prospective memory declines, but losses can be easily overcome with simple reminders. Declines in short-term memory are common and older individuals experience increasing difficulty in recalling things. Long-term memory, however, is not generally affected by aging.¹⁵ An example of an everyday task that can be affected by memory impairment is the ability to navigate around a building. Another effect of memory impairment can be a general loss of interest in one’s surroundings due to stimulus that is not effective enough to instill a significant reaction.

¹³ Phillips, Louise H., and Henry, Julie D. “Chapter 8: An Evaluation of the Frontal Lobe Theory of Cognitive Aging”. In book edited by Duncan, John, and Phillips, Louise, and McLeod, Peter. Measuring the Mind: Speed, Control, and Age. Oxford, New York: Oxford University Press, 2005. Referring to theories of Pat Rabbit, 2002. 190-191.

¹⁴ Craik, Fergus I. M. “Chapter 11: On reducing age-related declines in memory and executive control”. In book edited by Duncan, John, and Phillips, Louise, and McLeod, Peter. Measuring the Mind: Speed, Control, and Age. Oxford, New York: Oxford University Press, 2005. page 276, paragraph 3, lines: 7-12.

¹⁵ Baycrest. Memory Loss and Dementia: Types of Memory. Toronto: Baycrest, 2007.
<http://www.baycrest.org/MemoryandAging/Session_1/default_18.asp>.

One positive aspect of memory decline is that once something is retained it is retained equally well by all age groups.¹⁶ This means that although it may take longer to process information, require more attention and more intensive stimulus to learn something as an older person, it can still be just as meaningful and emotional. This is important because the nature of memory is to be highly connected to the individual and to emotional responses. It is even suggested that memory is from the same part of the soul as the imagination.¹⁷

2.2 Health

“Health is infinite and expansive in mode, and reaches out to be filled with the fullness of the world, whereas disease is finite and reductive in mode, and endeavors to reduce the world into itself.”¹⁸

The number and proportion of older people is increasing relative to the rest of the population (baby boomers were born between 1946 and 1964). With the increase in this population there is an associated increase in poorer health. This is because the elderly are more likely to develop disease and to suffer chronic conditions like arthritis, Parkinson’s disease and diabetes.

¹⁶ Brawley, Elizabeth C. Design Innovations for Aging and Alzheimer’s: Creating Caring Environments. New Jersey: John Wiley & Sons Inc., 2006. 18.

¹⁷ Aristotle. “Chapter 1: De Memoria et Reminiscentia.” In book by Sorabji, Richard. Aristotle on Memory. London: Gerald Duckworth & Company Limited, 1972.

¹⁸ Sacks, Oliver. Awakenings. New York, NY: HarperCollins Publishers Inc., 1973,1976, 1982, 1987, 1990. page 234, lines: 1-4

Health in a person is not always easy to pinpoint. Quite often it is a feeling that escapes attention until something is disturbed. This upset is consistent with the theory that life moves constantly between the loss of equilibrium and the search for a new point of stability. While Hans-Georg Gadamer describes this in “*The Enigma of Health*”,¹⁹ the idea of equilibrium is not new. The word ‘health’ itself is derived from the Germanic terms for ‘whole’, ‘uninjured’, and ‘of good omen’. When the equilibrium of the body has been lost, the disturbance turns towards illness.

Illness is a temporal concept that relates to an “unwanted condition in one’s person or self – one’s mind, body, soul, or connection to the world.”²⁰ This should be distinguished from sickness, which is determined more by the diagnosis of a physician. When sickness interferes with the everyday activities of an individual, a doctor is sought to restore health. Restoring health involves a sequence of events, deliberate or unintended.²¹ The process of healing normally involves the combined efforts of the doctor and the patient.

It should be noted that illness and sickness are both culturally defined. Because this investigation deals with Western notion of health, anthropological issues may be relevant. The author Cecil G. Helman explains the study in relation to medicine in the following quote:

“Medical anthropology is about how people in different cultures and social groups explain the causes of ill-health, the types of treatment

¹⁹ Gadamer, Hans-Georg. *The Enigma of Health*. California: Stanford University Press, 1996. 73, 78.

²⁰ Hahn, Robert A. *Sickness and Healing: An Anthropological Perspective*. New Haven: Yale University Press, 1995. page 5 under heading “Sickness”, paragraph 1, lines: 1-5.

²¹ Hahn, Robert A. *Sickness and Healing: An Anthropological Perspective*. New Haven: Yale University Press, 1995. 7.

they believe in, and to whom they turn if they do become ill. It is also the study of how these beliefs and practices relate to biological and psychological changes in the human organism, in both health and disease.”²²

In contrast to the term “illness”, the term “disease” is a more pathological concept. For example, plant and animal diseases are generally thought of as divorced from culture, but when a person’s disease is socially significant it becomes an illness. This explains how one can accept that a doctor ‘cures diseases’ but ‘treats illness’. This leads to the understanding of how a disease is considered more of an outside force affecting a person, versus an illness which is a part of the person. Illnesses are identified with an individual’s very being, even their characteristics, such that when doctors treat a body they are at the same time treating the soul.

Healing thus relates to our values and how we think about the application of medicine. We are responsible for organizing how illnesses are treated and advising others about them. Several different kinds of systems exist today. The *personalistic* medical system relates to a disease etiology where illness is believed to be caused by the active, purposeful intervention of a sensate agent who may be a supernatural or non-human being. In the *naturalistic* medical system illness is explained in impersonal systemic terms that conform to equilibrium models of the elements in a body.²³ Western civilization is a part of the latter system. Within this system, two major points of view on treatment exist, namely, the *curative* and the *preventative* approach to healing. Curative thinking is more about fixing a problem that already exists. Prevention is about trying to

²² Helman, Cecil G. Culture, Health and Illness. London: Butterworth & Co. Publishers Ltd., 1990. page 1, lines: 1-6.

²³ Foster, George M. Medical Anthropology. New York, NY: John Wiley & Sons, 1978. 53.

avoid the problem in the first place. Depending on the culture, different theories of healing apply.

The curative and scientific theories of healing are dominant in western medicine. Emphasis is placed on objective, rational and depersonalized diagnosis and treatment. One cannot, however, be treated solely by science and technology.²⁴ This issue will be addressed below.

Current concepts of healthy environments generally refer to technological requirements like (for example) proper ventilation. Such factors are foregrounded when designing for conditions such as 'environmental hypersensitivity' -- a chronic multi-system syndrome, usually affecting the central nervous system. 'Multiple Chemical Sensitivity' is another term used to describe people with numerous symptoms attributable to environmental factors. Environments built for these people must follow lengthy procedures to make sure that the building will not cause them to be ill. Special ventilation systems are installed, low volatile organic compound materials are utilized, and basements are avoided due to potential mold growth. Alongside the awareness of the potential for 'sick building syndrome' (when a building's indoor air quality is compromised or inadequate) buildings today can be constructed extremely well to accommodate health-related sensitivities to environmental irritants.

But beyond the technical considerations necessary to avoid allergic reactions, we should be designing buildings that promote the health of those who inhabit them. This means

²⁴ Gadamer, Hans-Georg. The Enigma of Health. California: Stanford University Press, 1996.

addressing the health of the inner dimension which is related to emotional intelligence, interest, the senses and consciousness. Thus health is also an important component of *inner growth*. This is because the process of healing should be considered a journey along which the individual reflects on his/her situation and comes both to accept and learn from it. Currently the western medical system is more focused on the accumulation of medical knowledge, of facts and information, rather than the understanding and wisdom that comes from the *experience* of being ill.

2.3 Inner Growth

The concept of inner growth or inner understanding -- as this thesis is hoping to engage it -- derives from Sufism²⁵. According to this tradition, knowledge and inquiry about life comprise four dimensions. The first is “truth” or the ultimate goal for knowing what one wishes to know. It is essentially like asking the question “why?” The second dimension is “the way” or path one takes in life to reach the next step. This is like asking “how?” The third dimension is “inner understanding,” which involves intelligence and using what one has learned by taking the path. It is about context and responds to the question “what?” The last step, “wisdom,” is the culmination of the three previous steps. The wisdom we achieve on reaching the summit prompts us to ask the question “for whom?”

²⁵ “Sufism, is the esoteric school of Islam, founded on the pursuit of spiritual truth as a definite goal to attain: the truth of understanding reality as it truly is, as knowledge, and so achieving ma'arefat (comprehension, wisdom).” Quote from Dr. Nahid Angha Seyede from the journal titled; “Sufism: An Inquiry.” Lines 4-7.

Inner understanding refers to knowledge *from within*. This is as opposed to knowledge obtained empirically or from others, such as agreed-upon facts. Inner understanding involves reflecting on facts and experiences in relation to one's context. This kind of understanding is, by definition, personal, as it relates to the particular context in which experiences accumulate. The meaning of a given situation or experience changes radically depending on the context; meaning and context are inseparable. This is where memory is important, because memory relates to context and personal circumstance. Memory is the tool we use to forge connections, make associations and arrive at an informed understanding of our situation. Inner understanding is also about intelligence; it relates to the "inside," involves the accumulation of knowledge, and only ends with *what* one does with the knowledge.

*"...Intelligence is really about understanding what happened well enough to be able to predict when it might happen again...comprehending events around you depends upon having a memory of prior events available for helping in the interpretation of new events."*²⁶

2.4 The Role of the Momentous Event in Inner Growth

According to author David Pillemer, the "momentous event" can play a significant role in the process of inner growth. In his book, "*Momentous Events, Vivid Memories*," Pillemer describes the momentous event as "when a life-altering event happens suddenly rather than gradually" and when "the personal impact may be intensified."²⁷ He goes on to

²⁶Pillemer, David B. *Momentous Events, Vivid Memories*. Cambridge, Massachusetts: Harvard University Press, 1998. page 63, lines: 5-9. quote from Schank, 1990. 1.

²⁷ Pillemer, David B. *Momentous Events, Vivid Memories*. Cambridge, Massachusetts: Harvard University Press, 1998. page 27, paragraph 3, lines: 13-15.

explain the impression these events make on our memories and what multiple events have in common:

“Momentous events include dramatically different types of life experiences, ranging from violent physical assault to the sudden birth of a scientific idea, but the memory representations of these disparate events share certain core, defining qualities.”²⁸

He goes on to list the five qualities of momentous memories. First, one must remember that a *specific* event took place at a particular time and place, rather than a general event or an extended series of related happenings. Second, memories of these events include *detailed* information about the rememberer’s *own personal circumstances* (could be architectural) at the time of the event. Third, the verbal account of the event is accompanied by *sensory images*, including visual, auditory, olfactory or bodily sensations that contribute to the feeling of ‘re-experiencing’ or ‘reliving’ the experience. Fourth, memory details and sensory images correspond to a particular *moment* or moments of phenomenal experience. And finally, the rememberer *believes* that the memory is a truthful representation of what transpired.²⁹

The difference between the momentous and the everyday situation lies in the level of stimulus and how it is received.³⁰ If it is rated as important or perhaps life altering

²⁸ Pillemer, David B. Momentous Events, Vivid Memories. Cambridge, Massachusetts: Harvard University Press, 1998. page 49, paragraph 2, lines: 2-6.

²⁹ Pillemer, David B. Momentous Events, Vivid Memories. Cambridge, Massachusetts: Harvard University Press, 1998. page 50-51, paragraph 4, lines: 3-14.

³⁰ Another way to distinguish the momentous from the everyday is to look at Husserl’s concept of “bracketing” whereby the event perceived is placed in brackets to allow it to be perceived regardless of its veridity (truthfulness). With a first-person perceptual experience, that event could be real or imagined but interpreted into something meaningful either way. The everyday experience as opposed to the momentous is based upon a perception of reality, of belief that the experience is true. See appendix below for more notes on Husserl’s theory of bracketing. See also Beyer, Christian. “Edmund Husserl” Stanford

compared to other situations that seem to blend into one another, than it may be deemed to be momentous.

Interpreting and assigning meaning to an event may lead to inner growth. A momentous event has the potential to change the way one conducts his/her life as a result of expanding one's understanding (reflection can be related to this process). Inner growth is essentially about understanding things in the context of one's personal experience (this reveals the relation to memory³¹). While architecturally, it would be difficult to equate a building to an event, a building can provide a significant context in which significant things may occur. As the move to a retirement community is (or has the potential to be) a momentous event, architects, must question how to make it as positive an event as possible.

The third realm, the dimension of inner understanding, is where one can create meaning in life based on personal experience. This moment of comprehension corresponds to inner understanding and can be provoked by something unexpected, something unassumed. It can be akin to an epiphany, which is the sudden manifestation of the essence or meaning of something or an intuitive realization.³² It is a part of the personal circumstances of a person at a particular moment. And in that moment (that *momentous event*) a memory is formed, which becomes a part of one's consciousness (one's

Encyclopedia of Philosophy. California: Stanford University, 2007.

<<http://plato.stanford.edu/entries/husserl/>>.

³¹ Memory here refers to the information that can built upon from personal experience and interpretation as opposed to what Frances Yates talks about with concept of "mnemonics". Mnemonics is simply learning through repetition, like re-reading an encyclopedia over and over.

³² The American Heritage Dictionary of the English Language; Fourth Edition. "Epiphany." Bartleby.com. Boston: Houghton Mifflin Company, 2000. <<http://www.bartleby.com/61/6/E0180600.html>>.

understanding of the past, present, and future). Whether or not this epiphany is provoked by architecture the event becomes a point of reference from which we proceed (on the way to comprehension).

Described in architectural terms, the momentous event could refer to environments to which dwellers relate on a personal level -- forms, spaces and qualities (such as the play of light) that invite and sustain interest and interpretation, inspire and are memorable. In the proposed design an attempt will be made to make key areas stand out from the remainder of the building, showcasing spaces that foster interaction between residents and visitors (and more potential for positive momentous occasions).

2.5 Healing and Place

“Healing and place are inseparable. Everyone can think of a specific place where they would like to be while being treated for or recuperating from a serious illness.”³³

Quite often people don't think of a hospital (or care environment) as being a comfortable place to be; the same is said in relation to nursing homes and seniors' centres. These places are frequently described as being cold, impersonal, sterile, and unfamiliar. But there are other meanings that people can derive from a place including identity, security, belonging, aesthetic pleasure and pride (often associated with one's home).

³³ Gesler, Wilbert M. Healing Places. Lanham, Maryland: Rowman & Littlefield Publishers Inc, 2003. page 1, lines: 1-3.

If we accept that the environment can affect the healing process, then a few key factors must be discussed. As Wilbert Gesler notes in his book, "*Healing Places*," some environments manage to achieve a sense of healing better than others. These include the *natural environment* (a belief in nature as healer, beauty, remoteness and including specific elements of nature), the *built environment* (a sense of security, affecting the senses, pride, and the symbolic power of design), the *symbolic environment* (the creation of meaning, physical objects as symbols and the importance of rituals), and the *social environment* (equality in social relations, legitimization, therapeutic community concept and support).³⁴

Some of these factors can be translated into low ward densities, circulation of fresh air, adequate light, good drainage, clean laundry rooms and kitchens, and good accommodation for staff. The problem today is that "people expect treatment for physical or mental illnesses in hospitals, but rarely anticipate spiritual, emotional, or social healing. Many times and many places hospitals have been looked upon as a last resort or a place where one goes to die."³⁵ This is where the case studies, which will be presented below, come in: they each represent a renewed interest in this concept of treating more than just the body. The independent living facility proposed in this thesis will address healing in a more comprehensive and holistic way.

³⁴ Gesler, Wilbert M. *Healing Places*. Lanham, Maryland: Rowman & Littlefield Publishers Inc, 2003. 8.

³⁵ Gesler, Wilbert M. *Healing Places*. Lanham, Maryland: Rowman & Littlefield Publishers Inc, 2003. page 83, paragraph 2, lines:3-5.

2.6 Medicalization

What Gesler observes about hospitals may also be true of the larger trend toward the medicalization of illness, namely, it is focused on treating the symptoms of disease. Until about the end of the 18th century, people were treated at home by family members.

Hospitals were only for the poor – those who had neither family nor staff to care for them -- and were akin to common houses. The hospital was also seen as a means of protecting the healthy from the sick and of protecting ignorant people from themselves.³⁶ The idea of the clinic also developed around this time, but independently of the hospital. The clinic accommodated the accumulation of medical theory, a place where knowledge was formed at the patient's bedside. The point of the clinic was to manifest the complete circle of diseases so that the most instructive cases could be brought together for the purposes of teaching. The difference between the clinic and the hospital was that the clinic operated under a process of selection, focusing on the diseases themselves, while the hospital operated as a place to isolate individuals who happened to be suffering from something. The development of the clinic led to today's model for health care facilities, where the ideal is not just to verbally identify symptoms that relate to a particular disease, but to move into the area of discovery.³⁷

³⁶ Foucault, Michel. The Birth of the Clinic: An Archaeology of Medical Perception. New York, NY: Pantheon Books, 1973.

³⁷ Foucault, Michel. The Birth of the Clinic: An Archaeology of Medical Perception. New York, NY: Pantheon Books, 1973. 62. Note: This 'area of discovery' refers to the learning process achieved by studying the disease conditions that are contained within a clinic setting. The discovery concept was unique in that it was not just based on the accumulation of a list of medical symptoms but an overall interest in understanding more about the sense of the condition. From there one's goal is about trying to expand upon that information or inquire beyond simple observations.

Changes in the structure of society have exacerbated the tendency to medicalize the process of aging. The shift in focus from the extended to the nuclear family has led to fewer and fewer independent living opportunities for the elderly and resulted in a greater dependence on institutionalized health care. In order to qualify for care, aging must be equated to sickness or disease.

The unavailability of family members to support aging individuals means that aging has become more of a personal problem; it is now up to individuals to make arrangements for themselves. For the past fifty years in North America, the default option has been to move (or be moved) to a nursing facility. With the increase in the number and proportion of Canadians over 65, the cost and logistics of care extracts an increasing toll on the state. Predictably, governments have turned to the private sector. Developers see a market for large buildings that can make a profit off the large sectors of the community who will need places to live outside of their (extended) family homes. Baby boomers tend to have more money and private enterprises may have some interesting new models to offer to the growing demand such as the project presented with this thesis (whereas government projects would tend to restrict resources put into seniors' developments based on budgetary considerations).

As noted above, the institutionalization and medicalization of aging treats the elderly as suffering from a 'geriatric problem' for which they are given pills and relegated to a place where others can save them from themselves (falling, attempting things they shouldn't attempt, forgetting to take pills, etc.). Like the 18th century hospital, the nursing home is

tantamount to a common house. Moreover aging, as a form of sickness, ceases to be the purview of the individual and becomes increasingly the problem of the doctor.³⁸ In his book, *“Medical Nemesis: The Expropriation of Health,”* Ivan Illich notes that; “As the medical institution assumes the management of suffering, my responsibility for my and your suffering declines.”³⁹

Illich refers to the management of pain, sickness and death as a “medical nemesis.” “Medical civilization is planned and organized to kill pain, to eliminate sickness, and to struggle against death.”⁴⁰ Painkilling actually used to be an uncommon notion in European civilizations. Pain was a person’s experience of a marred universe, not a medical malfunction.⁴¹

Now the word ‘clinic’ is identified with the detached view that a doctor takes at one’s bedside and a place where one goes to find out if they are sick or not.⁴² The person’s involvement in the way they are sick is now dependant upon what the doctor says. Death is something that is supposed to be “administered” in the hospital under the care of a doctor. On the bright side, there are now more palliative care centres which deal with the process of dying through positive processes.

³⁸ Illich, Ivan. *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars Ltd, 1975. 61

³⁹ Illich, Ivan. *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars Ltd, 1975. page 91, paragraph 2, lines:1-2. Referred from Alfred Shultz.

⁴⁰ Illich, Ivan. *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars Ltd, 1975. page 90, paragraph 2, lines 2-4.

⁴¹ Illich, Ivan. *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars Ltd, 1975. 104.

⁴² Illich, Ivan. *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars Ltd, 1975. page 116, paragraph 2.

In many cultures death is a celebrated event -- or at least widely acknowledged. These views have evolved in different stages, from the images of the 14th century dance of the dead, the renaissance dance at the bidding of the skeleton man, the bedroom scene of the aging, the 19th century European doctor in struggle against roaming phantoms, to the mid 20th century doctor who steps in between death and the patient, and finally to death under intensive hospital care. Gadamer contends that the depersonalization of death reaches its deepest in the modern hospital because there is no representation of the process and the family is removed from the domestic environment.⁴³ Illich argues that we need to minimize the amount of professional intervention that circumscribes contemporary interpretations of death (i.e., death happening under intensive hospital care). This would present the best conditions for a healthy environment because it would provide the greatest possibility for autonomous adaptation to death by the self, others, and the environment. The end result would be a need for less management.⁴⁴ To accept the path towards death (in age or chronic illness) is one of the highest tasks of human kind today.⁴⁵

⁴³ Gadamer, Hans-Georg. The Enigma of Health. California: Stanford University Press, 1996. 62.

⁴⁴ Illich, Ivan. Medical Nemesis: The Expropriation of Health. London: Calder & Boyars Ltd, 1975. 168-169.

⁴⁵ Gadamer, Hans-Georg. The Enigma of Health. California: Stanford University Press, 1996. 90.

3.0 Content and Intentionality

Oliver Sacks is an inspiration in the medical world for bringing together his thoughts about neurology and personal experience. Some of what he attempts to do in his work can be correlated to the intentions of this thesis.⁴⁶ For example, in his book, “*A Leg to Stand On*”, Dr. Sacks assumes the role of a patient. He deals with the experience of being in this position, feels the frustrations of trying to communicate with his own doctor’s rational world, and learns how to better relate to future patients. This particular story recounts his struggle to come to terms with the condition known as ‘phantom limb’. The rational side of his brain sees the limb but cannot recognize it as his own. The experience enables him to reflect on the healing process and the patient’s need for a gradual reintroduction into the real world after such a devastating (i.e., momentous) event.⁴⁷

With this situation, Oliver Sacks found himself to be in a state of ‘interiority’ (he was immersed in very introspective thoughts). During convalescence he had an abundance of time to reflect upon his encounter with the phantom limb. The experience of spending time in our heads might be compared to the experience of being in a building and reflecting on the meaning of an architectural space. In the case of a healing environment,

⁴⁶His work is described as follows on his personal website:

“As a physician and a writer, Oliver Sacks is concerned above all with the ways in which individuals survive and adapt to different neurological diseases and conditions, and what this experience can tell us about the human brain and mind. His books exploring these themes have been bestsellers around the world and are used widely in universities in courses on neuroscience, writing, ethics, philosophy and sociology. They have served as the inspiration for artists working in forms as varied as poetry, essay, documentary, drama, painting, dance, cinema and fiction.”

Carter, Sheryl. “Biography.” Oliver Sacks. New York, NY: Oliver Sacks, 2004. paragraph 4. <www.oliversacks.com>.

⁴⁷ Sacks, Oliver. A Leg to Stand On. New York, NY: HarperCollins Publishers Inc., 1993.

a patient could, perhaps, predict his or her own spiritual and physical outcome upon entering and reflecting on a significant space.

Since this thesis explores the impact that environments have on individuals and groups -- and how it affects the relationships formed, the impact it may have on healing, its potential to provoke reflection, etc. -- it may also be appropriate to discuss what it means to think in a more 'people-centred' manner. In his book "*The Meaning of Technology*," Arnold Pacey explores the personal and experiential side of our understanding of technology. Technology is usually seen as the opposing sort of experience; it is impersonal, rational, objective and efficient. A correlation can be made between this and how health is often described today in the medical profession. As Pacey comments, a move should be made to discuss health or technology alongside with personal values.⁴⁸

These days it is considered to be futile to describe technology in terms of ideals and imagination because these things are deemed to be personal and highly subjective.

Arnold Pacey believes one should *feel* the experiential quality of technology on an individual level as if this is the normal way to respond to it.⁴⁹ For Pacey, the "forms of an airliner or suspension bridge, the elegant conceptual structures of mathematics, and even talk of the "architecture" of computer systems may evoke positive visual responses."⁵⁰

These responses are different from factual and traditionally scientific observations.

⁴⁸ Pacey, Arnold. *Meaning in Technology*. Cambridge, Massachusetts: MIT Press, 2001.

⁴⁹ Maurice Merleau-Ponty also describes the connection one may have with an object perceived as being essentially linked the person themselves. He describes the perceptual capacity to understand something as already being present in the individual before the object is ever seen. In this way, for Merleau-Ponty, the object is already a part of the person before it is perceived and therefore personally linked and subjective in nature. (Merleau-Ponty, Maurice. "The Intertwining –The Chiasm." *The Visible and the Invisible*. Evanston, Illinois: Northwestern University Press, 1968.)

⁵⁰ Pacey, Arnold. *Meaning in Technology*. Cambridge, Massachusetts: MIT Press, 2001. page 3, lines 7-9.

Memories, as discussed above, come from this quality of personal experience. As the author notes, “a person’s ideals and values in relation to technology are an outcome of her or his sense of the purpose and meaning of life,”⁵¹ which affects how the memory of an experience is interpreted.

The goal of the design portion of this exploration is to “affirm the value of experience in its own right, just as experience, rather than regarding it as needing to be reduced to some basic explanatory scheme.” It will also expand upon this idea of experience to invoke a personal growth. Once a memory has formed, the individual should be able to move to new interpretations of that event in their own life. Personal experiences should never be devalued.

Scientific thinking, as described by Pacey, can devalue subjectivity -- particularly the ‘object-centered’ thinking predominant today. ‘Object-centered’ thinking is a compartmentalized mind set and work ethic separate from the end user, whereas ‘people-centred’ thinking is about caring, loving, empathetic and relationship-oriented processes. These two ways of thinking are often navigated in the hospital or care environment. For example, a nurse cannot take a simple ‘object-centred’ view of the human body if she or he is to feel empathy with her patients and care for them when they wake up. This topic is related to ethics and considering the impacts of technological advancement. As Pacey puts it; “Thus my way of understanding insists that the personal experience of individual

⁵¹ Pacey, Arnold. Meaning in Technology. Cambridge, Massachusetts: MIT Press, 2001. page 3, paragraph 3: lines 5-6.

people is real, important, and indeed, a source of ethical impulses (as when empathy is a check to violence).”⁵²

So if a building is to be about the subjective qualities and experiences of its inhabitants, it follows that everyone should be able to take part in it. The building should not be limited to the patient or doctor or even the staff. In the end, although it will be designed with the specific needs of the elderly, doctors, staff, and visitors in mind, it will be the kind of place anyone would want to experience. It is a non-limiting approach to who can ultimately benefit from this project.

The motivation of this thesis is to create situations that encourage individuals to take an active part in the healing process and in so doing, enhance the quality of their lives.

Bolstered by a stimulating and well-designed environment, the ordinary event of going to a hospital (or the ordinary event of aging) can be positively altered. Given access to environments that foster meaningful personal experience and personal growth, the individual has the potential to heal inside and out. This study explores how the design of a senior’s independent living and health care environment can promote a prospective outlook in life -- leading improved memory, health and inner growth.

⁵² Pacey, Arnold. Meaning in Technology. Cambridge, Massachusetts: MIT Press, 2001. page 221, paragraph 3: lines 1-3.

4.0 Concept and Investigation

This project explores the dialectic between opposing characters. The first is someone who encounters a disturbance in his or her health. This person normally has a dream-- for example a desire to become a pilot -- but they have fallen ill and the dream is unfulfilled. The second character is the person who doesn't dream. This individual lives in a rational world making rational decisions. Essentially, he is the character of a physician. The one intrudes on the other, the dream onto the uninspired and the emotional vision against the rational approach. The upsetting nature of this scenario where the would-be pilot and the doctor co-exist is the condition of this project. These characters personify the conflicting conditions in the hospital environment today, namely, the rational medical professional and the emotional world of the patient. This project will attempt to shift the rational towards the emotional and, in so doing, will attempt to de-institutionalize the typical model of a seniors' residence and care facility.

This thesis will compare and contrast a few scenarios to illustrate how the world of the medical professional may play against the emotional world of the patient. First it will describe a model care environment for the elderly (including an example of an independent living facility in Ottawa, Canada; Colonel By Retirement Residence) followed by four case studies: the Green House Project (Kansas, USA 2006), the Presentation Senior Community (San Francisco, CA, USA 2001), the Baycrest Geriatric Centre (Toronto, ON, Canada 2000), and the Carlo Fidani Peel Regional Cancer Centre (Toronto, ON, Canada 2005).

4.1 A Typical Care Environment for the Elderly

There are several kinds of 'homes' for the elderly, corresponding to different levels or stages of care, each of which offer options to residents to alleviate the burdens of everyday activities. This first type, 'independent living', is geared toward people who are generally independent, healthy and able to care for themselves (also commonly called retirement living). The next level, 'assisted living', provides for those who require some assistance to carry out everyday activities such as preparing meals or cleaning. The final type associated with care for the elderly is the 'nursing home' or 'long-term care home'. This kind of facility assists individuals who require skilled nursing care -- those who are no longer able to look after their living environment and who have limited abilities to care for themselves with respect to activities such as bathing, eating and taking medication.

Communities that combine all three levels of care can be called "Continuing Care Retirement Communities" (CCRCs) or sometimes "Life Care Communities." Entering such a facility is generally an once-in-a-lifetime choice -- which is a part of the appeal. These communities often have large grounds that include separate residences for those who live very independently, assisted living facilities that offer more support, and nursing homes for those needing skilled nursing care. With all buildings on the same grounds, people who are relatively active can live side by side with those who have serious physical and mental disabilities. Residents enter the community based on a kind of life

contract that allows them to exchange living arrangements as their needs change.

Entering one of these communities when one is more independent costs less than when care is needed. This encourages healthy individuals to make the choice to buy in earlier.

The appeal lies in how residents can build a network of friends and acquaintances and take a person stake in the environment throughout the course of their stay.⁵³



Image 1 (Colonel By Residence)

The Colonel By Retirement Residence in Ottawa, Ontario, is an example of a typical independent living facility⁵⁴ in Ottawa. The residence charges between \$2700 and \$4800 per month and has 120 units. It is a private, wheelchair-accessible building, offering parking, housekeeping services, 24 hour nursing supervision, meal services, hairdressing

⁵³ American Association of Retired Persons. "Continuing Care Retirement Communities." AARP. Washington DC: AARP, 1995-2007. <http://www.aarp.org/families/housing_choices/other_options/a2004-02-26-retirementcommunity.html>.

⁵⁴ The difference between the terms 'independent living home' and 'retirement home' is somewhat ambiguous; they are often used interchangeably. Both promote social activities, are designed for the elderly, and offer residents a range of optional services.

and organized leisure activities. One floor is devoted to assisted living care and includes a secure floor for residents with Alzheimer's and Dementia.⁵⁵



Images 2, 3, & 4 (interior of Colonel By Residence: suite, dining room, and lounge)

4.2 Case Studies

4.21 Green House Project

The Green House Project was developed by Dr. William Thomas as an approach to the design and location of group homes for the elderly. The model has been applied throughout the United States since 2003 and tries to demonstrate how homes for the elderly can be built as small community-based projects that foster intimate relationships between residents and caregivers. These dwellings accommodate six to eight residents and are designed to feel 'like home' in an attempt to combat the social isolation of large nursing homes. The model moves away from typical long-term care facilities that do not blend as easily into small-scale neighbourhoods. Green Houses are meant to be located in and amongst other housing while providing the professional care that residents

⁵⁵ Retirement Residences Real Estate Investment Trust. "Colonel By Retirement Residence." Retirement Residence Real Estate Investment Trust. Mississauga, Ontario: REIT, 2007.
<<http://www.retirementresidences.com/homes/278/>>.

frequently require. They combine assisted and long-term care, and are staffed by nursing assistants with regular visits by other health professionals. The idea is that long-term care can and should be delivered in small-scale environments that are “warm, smart, and green.”⁵⁶ The following is an example of a Green House project proposed in Kansas.



Image 5 (Copyright © 2006 Mennonite Manor, www.mennonitemanor.org, designed by The McCarty Company)

⁵⁶ These terms are referred to in the Green House website and Brawley’s book. Warm: Warmth is created by the floor plan, décor, furnishings, and the people. Smart: Use of cost effective design, smart technology-computers, wireless pagers, electronic ceiling lifts, and adaptive devices. Green: Sunlight, plants, and access to outdoor spaces.

NCB. “The Green House Replication Initiative.” *NCB Capital Impact*. Washington DC: NCB, 2006-2007. < <http://www.ncbcapitalimpact.org/default.aspx?id=148> >.

Brawley, Elizabeth C. *Design Innovations for Aging and Alzheimer’s: Creating Caring Environments*. New Jersey: John Wiley & Sons Inc., 2006. page 161, paragraphs 2-3.

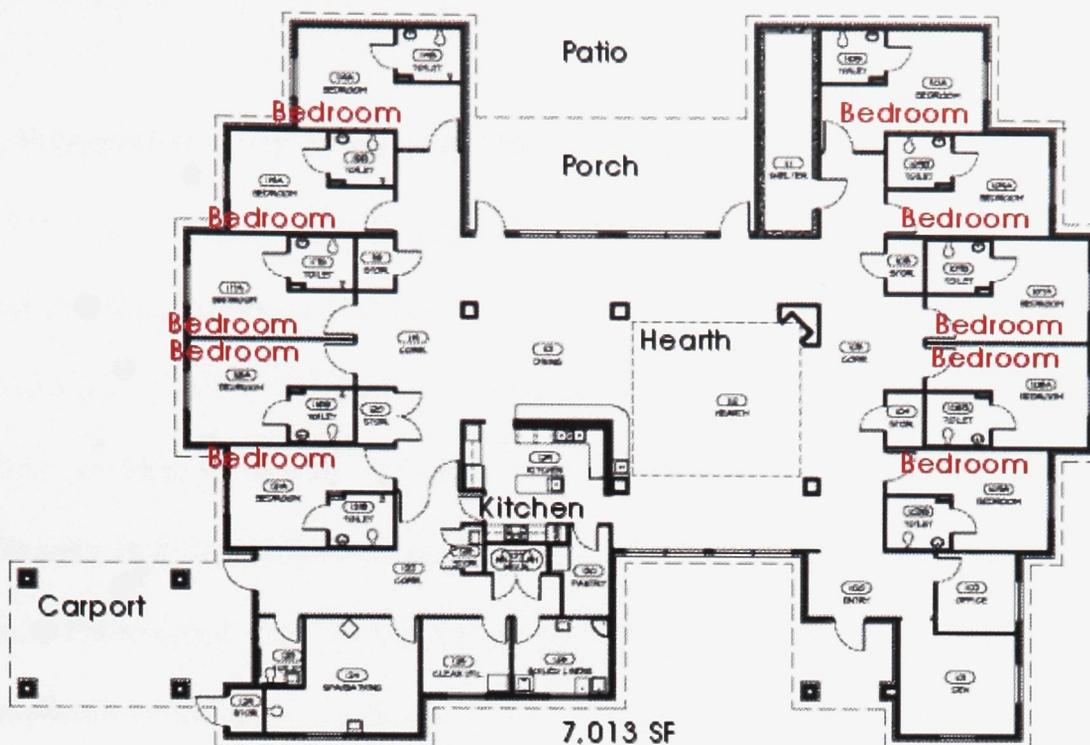


Image 6 (Copyright © 2006 Mennonite Manor, www.mennonitemanor.org, designed by The McCarty Company)

Two points of criticism come to mind for the Green House model. First, most examples interpret ‘like home’ to mean looking like large versions of typical subdivision housing, replete with peaked roofs, shutters and dormers. While the scale is more humane than large institutional facilities and more appropriate to the neighborhood setting, designs seem to be limited in variety. The context seems to have little impact on the design of the building (perhaps this is a comment on the generic nature of suburbia). Secondly, the term ‘green’ actually applies to their garden settings rather than to what could be interpreted as environmentally friendly construction techniques. As this is misleading, the model should perhaps be marketed under another name.

4.22 Presentation Senior Community

The Presentation Senior Community (2001), designed by Hardison Komatsu Ivelich & Tucker, is an example of the direction that contemporary seniors' residences are headed. Located in San Francisco, California, it is an independent living facility that combines services for seniors with those for the general public. The unique qualities of this project include its urban setting, the inclusion of commercial space at street level, and the promotion of the principle of wellness as a community issue (i.e., not just a seniors' issue). Presentation Community includes an Adult Day Health Center (ADHC), physician's exam rooms, social services such as counseling, and a multi-purpose facility for community gatherings. A unique feature of the project is the theatre, which occupies a 2,000 SF commercial space at the ground level of the project. The theatre was conceived by the developer in response to the city's desire to enliven the project at the street level in the evening, while providing cultural amenities for the senior residents.⁵⁷

⁵⁷ Hardison Komatsu Ivelich & Tucker. "Presentation Senior Community." HKI&T. California: HKI&T. <<http://www.hkit.com/portfolio/senior/5.html>>.



Images 7 & 8 Presentation Senior Community (HKI&T)



Image 9 plan of Presentation Senior Community

The design of the building is sensitive to its neighbours, scaled well for the streetscape, and reads like an apartment building (i.e., not particularly as a retirement or seniors' facility). Bay windows on the upper levels reinforce the residential nature of the complex and mark it as 'up-scale' (more detailed construction techniques cost more). This, along with the retail spaces at street level, helps to distance it from its more institutional counterparts. One problem is that the form of the building, while contextually

appropriate to San Francisco, is so common that there is little in the way of extraordinary architectural interest. It is comfortable and competent – but a bit banal.

4.23 Baycrest

Originally established in 1918, the Baycrest Geriatric Centre in Toronto, Ontario is comprised of several connected buildings. Within it are different programs that together accommodate about 2000 people a day. These include research facilities (such as the Rotman Research Institute), areas for administration, clinics, community rooms, senior day care services, and residents' rooms, including independent living rooms and long-term care rooms. The centre is in large part funded by the Baycrest Foundation and donations from the public.

Located in a Jewish area of Toronto, Baycrest focuses on caring for and working with the Jewish community. Its high level of integration with the community includes a



Image 10 (memory box)

partnership with the University of Toronto for teaching opportunities. Research undertaken at Baycrest's 'Research Centre for Aging and the Brain' is evident in the center's design. In response to this research and age-related memory loss the designers placed 'memory boxes' at entrances to residents' rooms throughout the facility. These boxes are meant to individualize each room and remind residents of which room is theirs.

One of the newly designed areas at Baycrest is the 472-bed Apotex Centre for Long Term Care (2000)⁵⁸. Residents' rooms are organized around five gardens and three courtyards, one of which is covered to create an atrium and winter garden. The sky-lit atrium is large and bright, and includes trees and large metal structures that seem to continue the reach of the trees up to the sky.

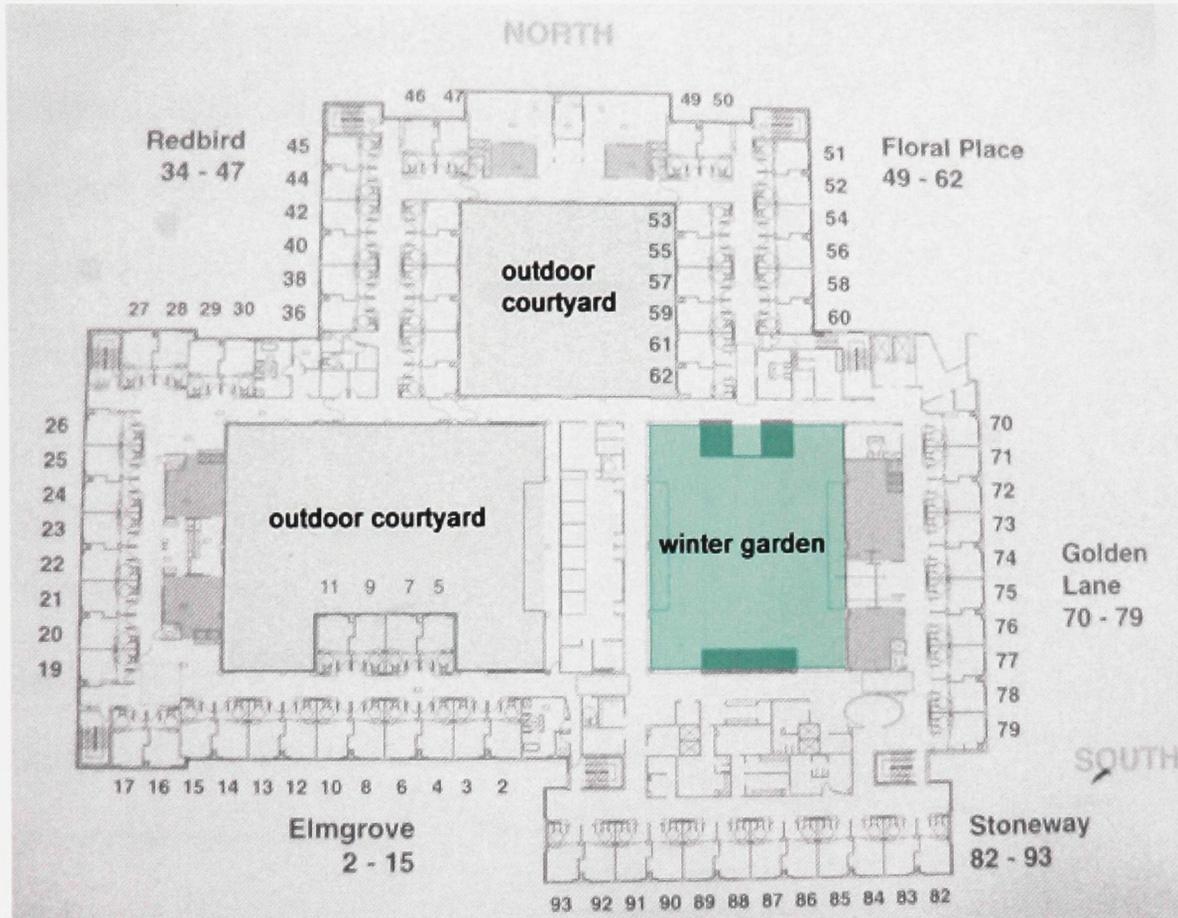


Image 11 (plan of Baycrest-winter garden at right)

⁵⁸ Designed by Boigon Petroff Shepherd Architects Inc. in Joint Venture with AJ Diamond, Donald Schmitt & Co.

Although the centre includes interesting spaces (such as the gardens and even the memory boxes), as an ensemble it is of an institutional scale. Large corridors are hard to avoid and the height of the building tends to make some spaces feel too public for residents. Surprisingly few people frequent the main atrium space (perhaps due to its over-scaled size). It seems to be more useful as a source of light and a view for the rooms that back onto it, as well as a site for occasional conferences.



Figure 12 (institutional corridor)

Adjacent to residents' rooms are small communal "living rooms" designed to accommodate family gatherings. The ceilings are dropped and natural materials (e.g., wood) are introduced along with bookshelves and upholstered chairs. The problem with these areas is that the institutional character of the balance of the facility is apparent as soon as one steps beyond the door. Although this might be attributed to the hygienic requirements of a long-term care facility (the metal and high reaching forms), there are alternatives which are warmer and just as 'clean'.



Figure 13 (communal living room)

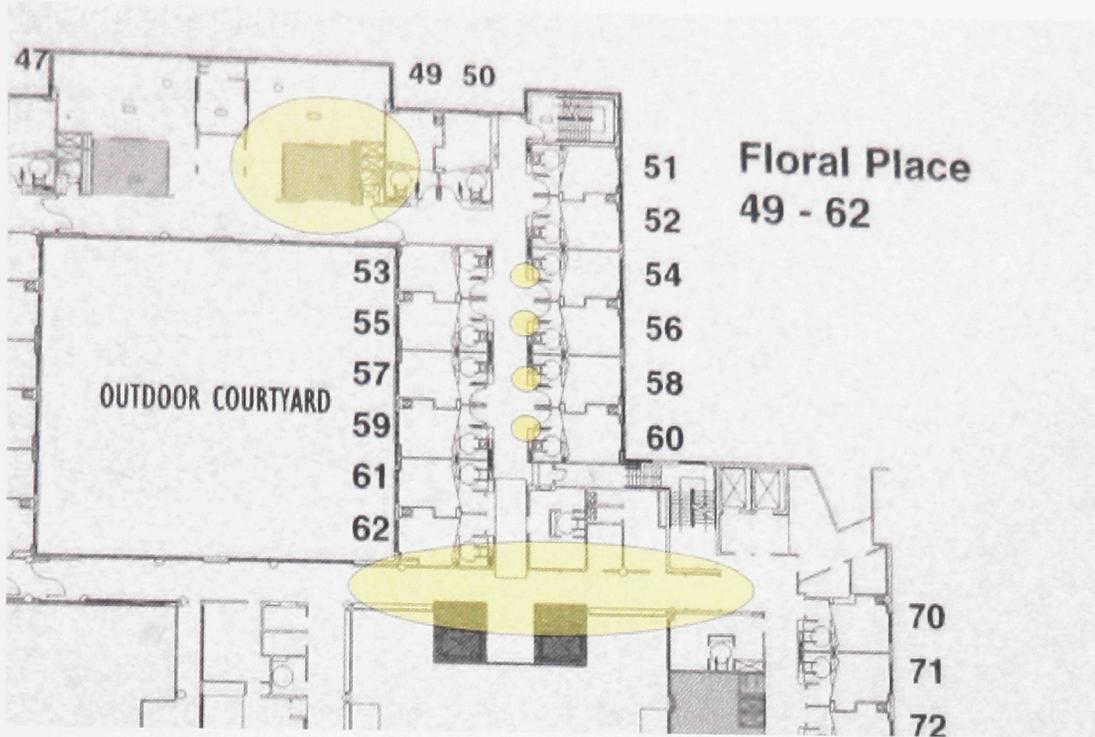
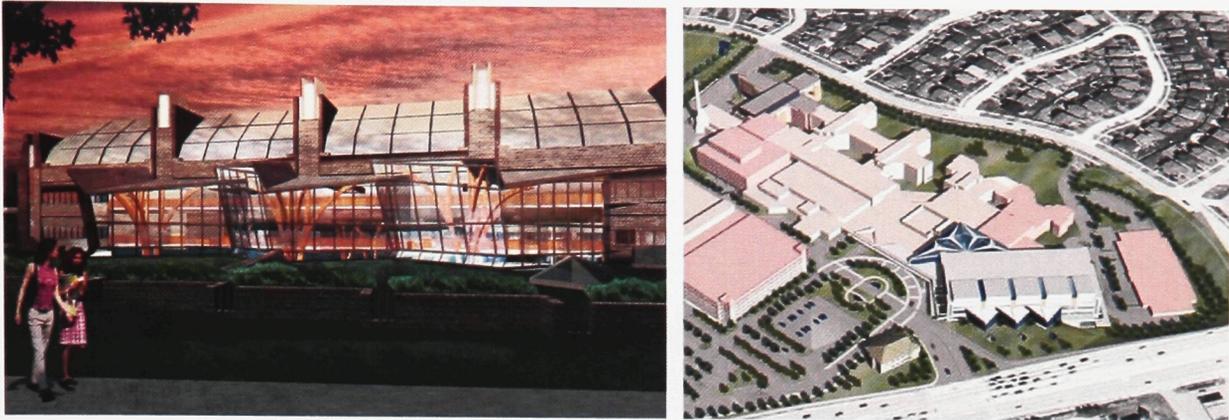


Image 14 (location of lounge, memory boxes and corridor)



Images 15 & 16 (winter garden/atrium at ground level and skylight)

4.24 Carlo Fidani Peel Regional Cancer Centre



Images 17 & 18 (Farrow Partnerships Inc.)

The Carlo Fidani Cancer Centre, built in Toronto in 2005, is an example of a contemporary health care building that successfully combines the right amount of rationally based scientific elements with emotional concerns. There are the necessary clinics and hospital rooms, but these are balanced with communal lobby spaces and inspirational, emotive gestures.

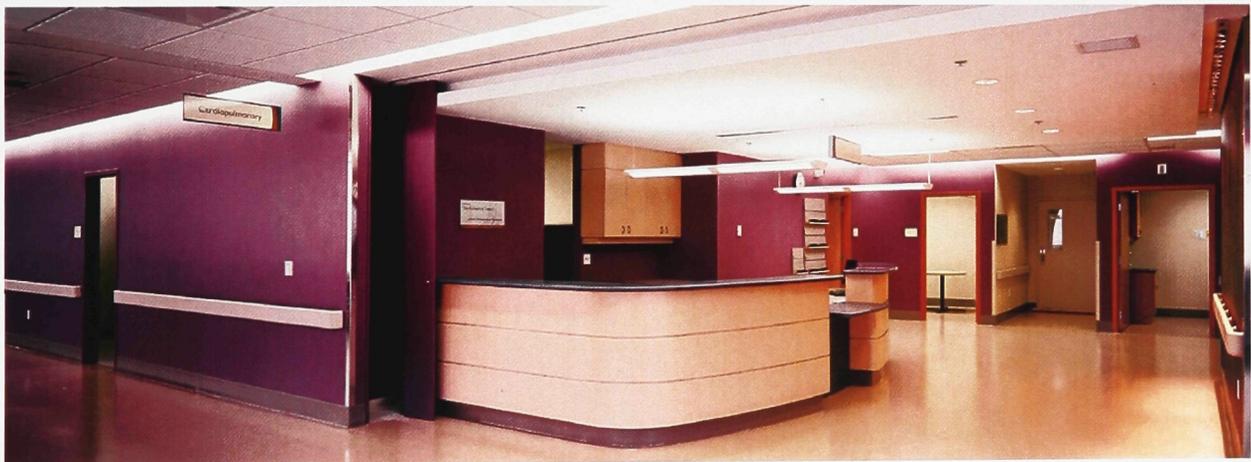


Image 19 (colourful nursing station – image: Farrow Partnerships Inc.)

Designed as an addition to the Credit Valley Hospital, the facility accommodates the treatment and care of cancer patients from in and around the area. It includes radiology

rooms, clinics, labs, rehabilitation rooms, and other services. The two pivotal sites in the building are the main lobby and the radiation treatment area. Both are designed with sloping glass walls, roofs, and beams that resemble Douglas fir trees.

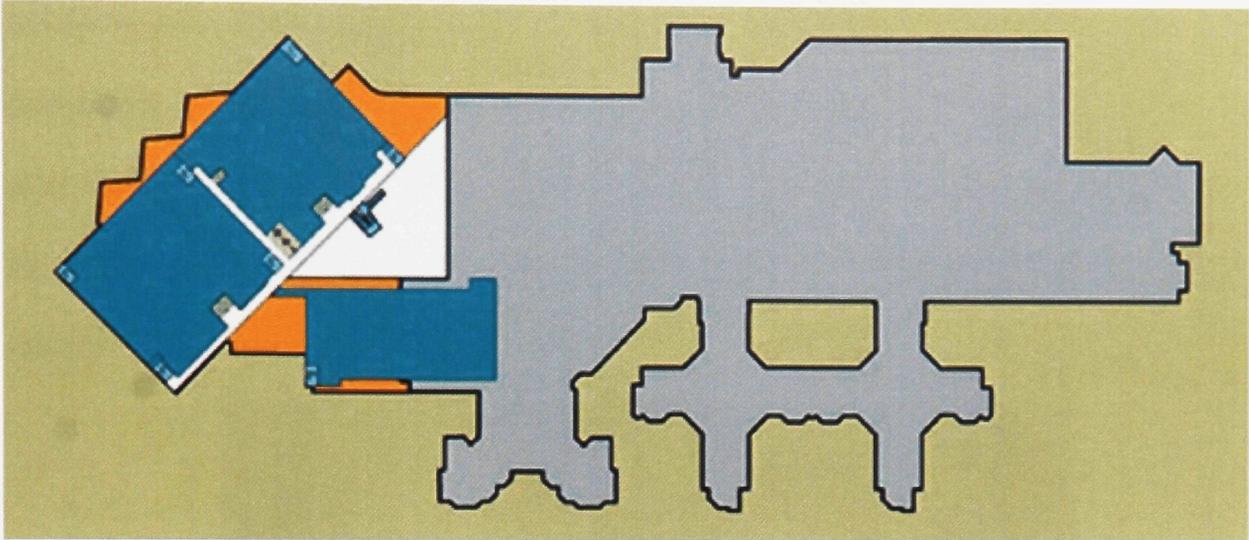


Image 20 (addition at left)



Image 21 (lobby space - image courtesy Farrow Partnerships Inc.)

The fact that the two most inspiring spaces are at the opposite ends of the functional spectrum -- one highly scientific and the other highly people-oriented -- indicates how this building responds to both rational and emotional realities. Each of them has the right to be present and both situations set themselves apart from the rest.

Based on having experienced the environment first-hand, this building successfully balances the highly scientific medical world and the highly emotional world of the patient. It easily distinguishes what falls into which category, but also creates juxtapositions by bringing them in close contact. In recognition of the key role that design plays in this facility, the Carlo Fidani Cancer Centre will be the focus of a two year study examining “the effects of design on staff and client efficiency, and formally document measured correlations to determine the positive, or negative impacts on patient recovery, satisfaction and staff movements.”⁵⁹



Image 22 (radiology treatment area - image courtesy Farrow Partnerships Inc.)

⁵⁹ Stanwick, Sean. “Credit Valley Measures Superior Performance through Evidence Based Design”. Hospital News. Toronto: Farrow Partnership Architects Inc., 2005. <<http://www.hospitalnews.com/modules/magazines/mag.asp?ID=3&IID=64&AID=857>>.

Of the four case studies examined, this thesis considers the Carlo Fidani Centre to be the most successful with respect to creating an emotionally stimulating, personal and approachable environment. The design of the center communicates respect and a high level of care for patients. While the Green House Project and the Presentation Senior Community both invoke residential forms (i.e. peaked roofs, subdivision materials, typical forms for the area), there are no provocative or extraordinary moments to inspire an individual to reflect or learn something new. This is what inner understanding is about. All references in these facilities point backwards towards the past. While at Baycrest there are places that one may be pleasantly surprised to discover, these lack the interactivity that make celebrated spaces so rewarding. Baycrest's sunrooms and gardens fail to expose the resident to anything more than scenery and the metal structures in the atrium are cold when compared to the warm, wooden forms in the Cancer Centre.

The twin celebrated spaces of the Cancer Centre are treated similarly but have different characters (images of a yin-yang come to mind). Interaction with visitors and the public in the lobby has the potential to allow patients to feel or respond more normally. For the radiation treatment area, the rational and highly scientific process of chemotherapy is emotional, rewarding and private (there are separate personal spaces for each patient in an overall large area). The spaces are appropriately scaled, memorably designed and comfortable enough to promote interaction with others; the reaching wooden limbs in the space create a sense of hope. Overall the design of the Cancer Centre communicates

higher levels of care, a good quality of life, a space for healing, improvement of the self and references to nature.

Relating the topic of medicalization to the case studies above, the Green House Project and the Presentation Senior Community could be said to deal successfully with death to the extent that they replicate the domestic environment and can accommodate the family's presence during the death of a loved one. They also achieve the ideal of minimal care by using nursing assistants so that doctors need not be hovering all the time. But there is still little in the design of these facilities to help the elderly deal with death. In the Baycrest centre death may be alluded to in both the living and naturalistic elements placed sporadically throughout the building. One could, for example, interpret the summer and winter gardens as manifestations of the natural cycles of life and death. As noted, I believe the Carlo Fidani Cancer Centre is successful in this area given its scale, the warm environment it creates to welcome the public, and in its use of natural elements (the organically-shaped fir columns). The high quality and distinctive design of the space points towards instilling ideas of hope in the patient, so that they may be able to consider death, whether or not it may come. When the patient's illness is terminal, good design has the potential to help him or her to feel more positive about the experience of dying (resulting from good experiences in the care environment and a better quality of life).

The relevance of these case studies to this thesis is not so much in their exact typologies (i.e. a long-term care facility versus a cancer centre) but in the way they demonstrate ways of dealing with those who are elderly or creating caring environments. They

represent different levels of care (ranging from optional assistance to 24-hour supervision), they all contain spaces intended to aid those dealing with illness, and they each attempt to address quality of life issues (by providing varying services and spaces for socialization).

One important observation about the success of the cancer centre which will be drawn into the design of this new 'independent living' community is the emergence of two realms, the private versus the public. They behave like a kind of yin-yang. This design will include aspects of two different realms -- that of the resident and the spaces to which they can retreat and those through which they can choose to interact with the community. The challenge lies in integrating and blending the threshold between the two.

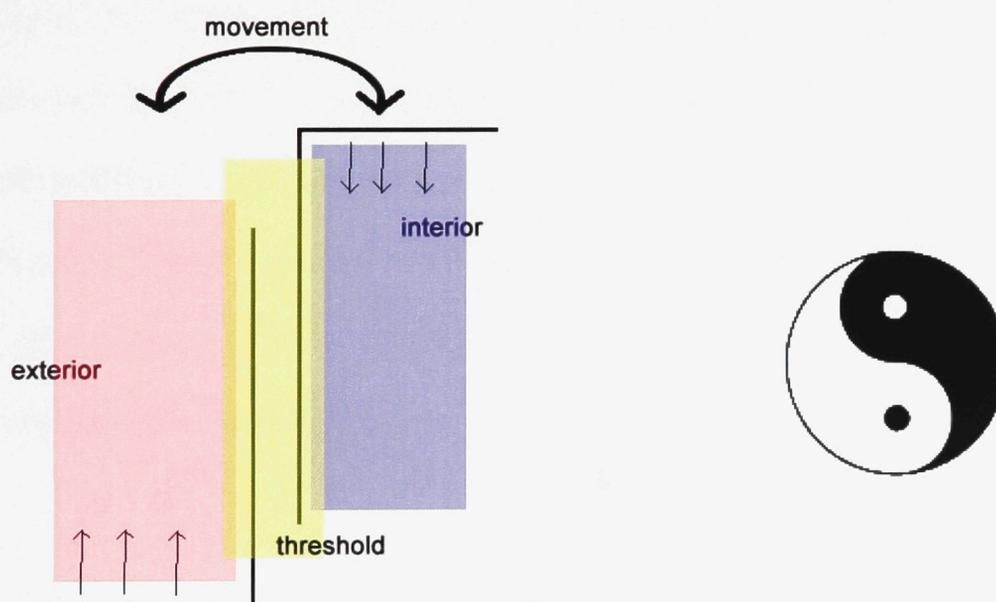


Image 23 & 24 – preliminary concept sketch and image

5.0 Context

5.1 Site

The site chosen for the design portion of this thesis is the eastern end of Porter's Island in the Rideau River in Ottawa. Located between New Edinburgh to the northeast and Lowertown to the south and southwest, the island was home to a small apartment building (Hopewell Apartments) until 1964 when the Island Lodge seniors' development was built. The Island Lodge consisted of two retirement facilities: the Bradford House on the west end and the Allen House to the east. In 2005 the Bradford House was demolished to make way for the 7-story, 180-bed Garry J. Armstrong Long-Term Care Home. In 2006 the Allen House was razed and Central Park Lodges began construction of a new 10-story, 128-unit independent living facility. There are no plans to connect the two buildings as the latter is privately owned while the Armstrong facility is owned by the City. The design portion of this thesis will propose an alternative to the Central Park Lodge proposal and attempt to organize the site to better integrate with the Armstrong building (and others nearby).



Image 25 (Porter's Island, Gary J. Armstrong building at left and Allen House at right (now demolished) - image: Google Earth 2006)



Image 26 (Gary J. Armstrong Long-Term Care Home (west end of island))



Images 27 & 28 (Central Park Lodges Independent Living Home - currently under construction, to be finished summer 2007, east end of island - images courtesy CPL and architect Stan Makow)

The island site offers a beautiful natural setting (natural settings are often associated with healing) while accommodating interaction with neighborhoods in close proximity. It is ideal to be able to locate an independent living home in close proximity to a long-term care facility. The adjacency allows residents to change buildings if and as the need arises.

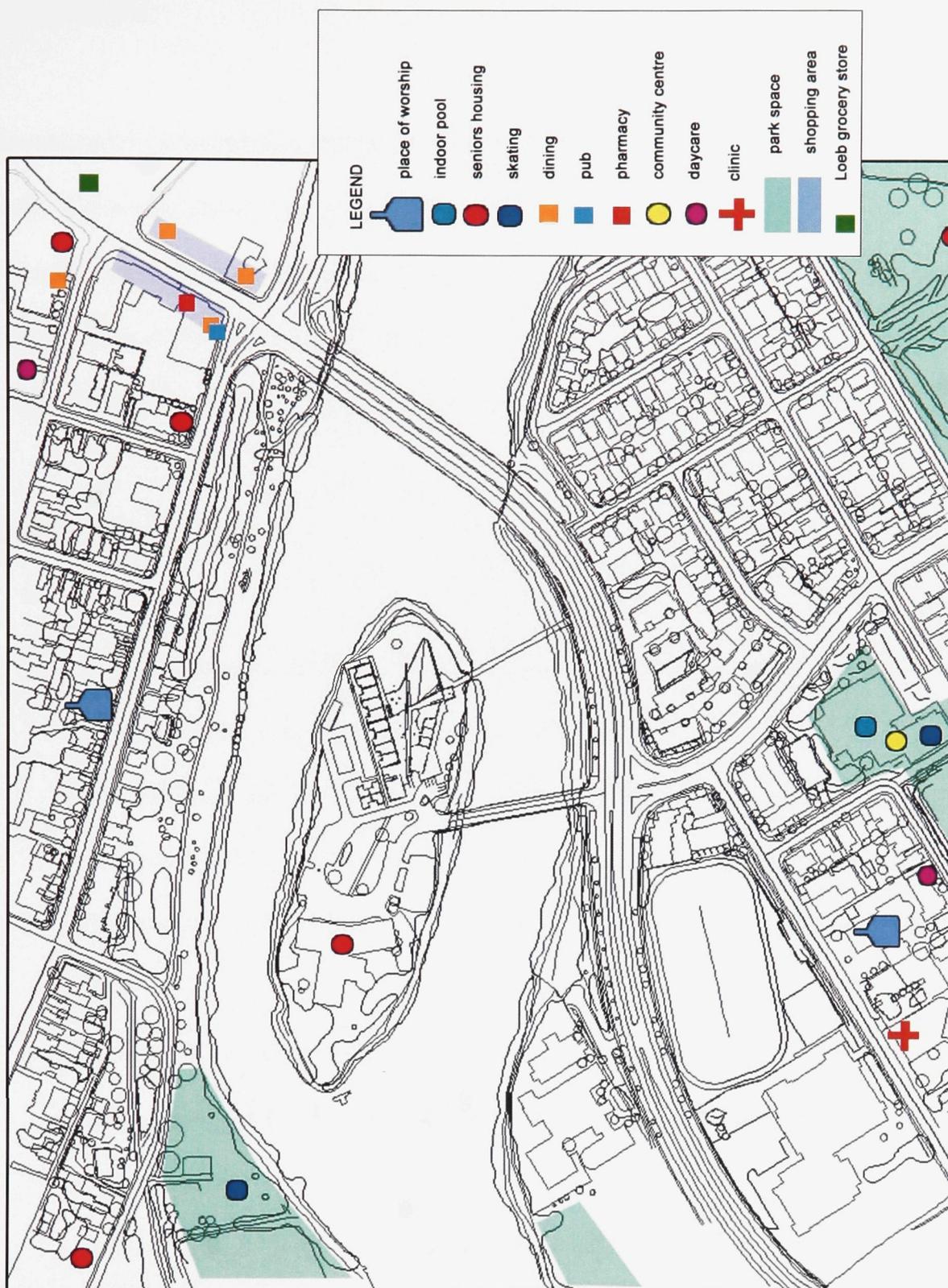


Image 29 (Showing locations of community facilities within walking distance of Porter's Island)

5.2 Guidelines

The research I've undertaken led me to some principles to guide the design portion of this thesis. These guidelines support the vision of the seniors' community as a healing environment that promotes inner understanding. These principles also help to exploit the dialectic between the rational realm and the realm of emotional intelligence (as exemplified by the characters in the story of the pilot and doctor).

5.21 Principles

1. The first principle is that the community should function as a kind of oasis. When looking for a place to heal nature figures prominently in our psyche. Falling water, fresh air, unspoiled beauty, and the opportunity to reflect are all qualities we associate with a natural setting. The more empathy and connections a person can make with a healing space, the more likely they are to work towards a healthy goal.
2. A connection to the community (i.e. in proximity to residential areas, community centres where residents can volunteer, ability to access to retail on foot, etc.).
3. Another principle is the need to include an active learning component. Learning is one of the best tools to keep the memory healthy; those who are motivated to learn are more likely to be able to live independently. This guideline also addresses attention and interest in the elderly. The environment must remain a

stimulating and exciting place, one in which one can develop a sustained interest over an extended period.

4. The emotional programmatic components (for example a lobby space) should work with and against the more rational components (for example, a doctors' office). The former should be more imaginative and elusive whereas the latter should be anchoring and grounding in nature.

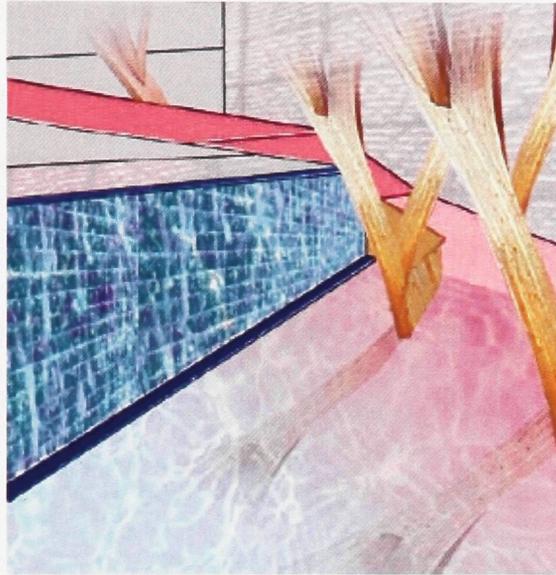


Image 30 (elusive and emotional gestures)

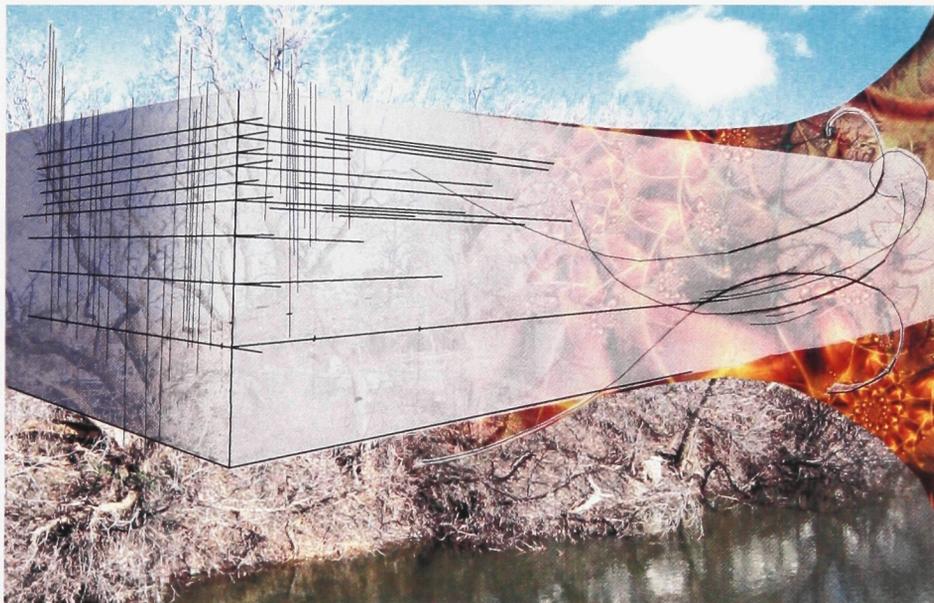


Image 31 (geometric rationality to fluid emotionality)

5. The design should be rich and stimulating, with enough nuance that a person who is ill or immobile feels there are more interesting things to do than be preoccupied by what illness or age might prevent them from doing. For those with mobility issues, for example, the facility should provide great views. Given the location on Porter's island a resident should be able to look out across the river and watch the local wildlife, monitor movement on the Beechwood bridge, and observe activities in the adjacent neighborhoods.
6. With respect to addressing memory the materials and form of the building are important. For example in order to help people with memory impairment *context reinstatement* must be considered.⁶⁰ This includes the ideas of relatedness, repetition, and navigational cues. All of these can increase recall in the elderly and can be enhanced by a thoughtful approach to the choice of materials in relation to specific areas or programmatic elements. The more visual, olfactory, or textured they are, the more likely the memory-impaired will be able to make sense of (and feel secure within) the environment.
7. Finally, once fully immersed in this building, the user will have the opportunity to engage in the "diagonal dialectic"⁶¹ where (*on their own*) they experience an unexpected reconciliation with the situation of the building. It means the individual will find, most likely to their surprise, a space amongst the rational components of the program that will lead them out and above this realm and into

⁶⁰ Craik, Fergus I. M. "Chapter 11: On Reducing Age-Related Declines in Memory and Executive Control". In book edited by Duncan, John, and Phillips, Louise, and McLeod, Peter. Measuring the Mind: Speed, Control, and Age. Oxford, New York: Oxford University Press, 2005. 275.

⁶¹ Andonian, Greg, concept taught as a part of thesis advisory, November 2006.

the cosmos (i.e., a place beyond the physical world). Similarly they will discover intimate spaces in which their emotions delve deep into a grotto. The diagonal dialectic demonstrates a possible resolve to the two sides of this narrative duel. (As described above, one character has a dream which fights against the objectified reality of the other.) The diagonal dialectic shows the potential that each realm may include a portion of the opposing condition (emotional life may really end in a crush of dreams and the rational may really soar above all).

5.3 Programmatic Components

1. Living plants and a water feature - The building should draw in natural elements to create a relaxing and natural environment and allow movement to the outside.
2. A daycare, a theatre, a dining room and activity rooms (such as an art studio, community gathering rooms and a cooking room) – to create connections with the outside community and create opportunities for interaction on many social levels.
3. A library - to provide both the occasion and incentive to learn. (Accompanying reading areas and seating also make tranquil spaces for relaxed activities.)
4. A meditation/spiritual space⁶² –to create an isolated and

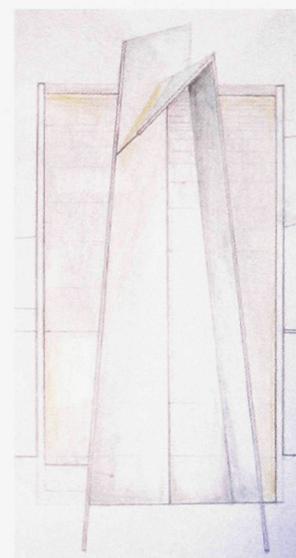


Image 32 (preliminary design sketch – meditation space)

⁶²

It is perhaps also important to consider of the extent to which the emotional and the spiritual are connected. While both are lenses through which we experience of the world, they may differ in relation to religious meaning. While the emotional intelligence to which this project attempts to appeal is not explicitly religious, neither does it deny the authenticity of religious experience. In this regard, the meditation space may also be interpreted as a chapel.

emotional environment for individuals to reflect.

5. Generic and rational programs - such as spaces for residents, doctors, nurses, treatment, building services, rehabilitation and support services.

5.4 Preliminary Design Sketches

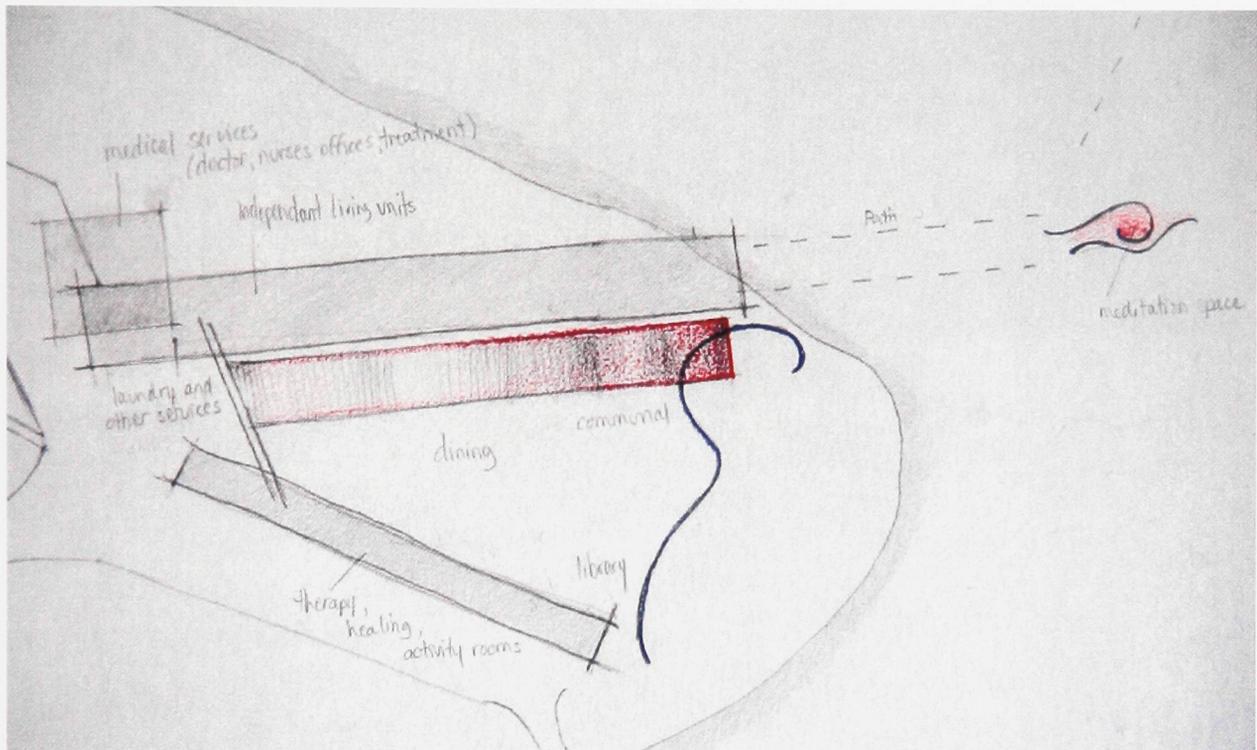


Image 33 - preliminary design sketch – geometrical forms at the top include medical facilities and living units – below are more fluid forms making the communal spaces – at right is an earlier position for the meditation space accessed by a path

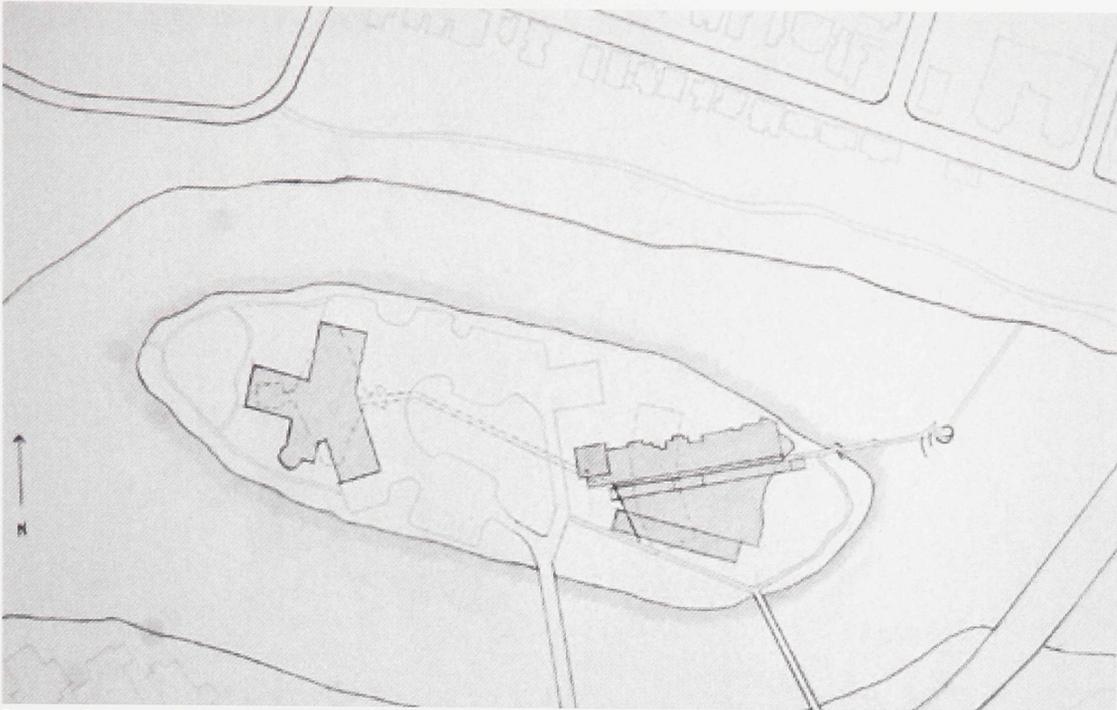


Image 34 - preliminary site plan – the Gary J. Armstrong building is to the left with the new independent living community to the right – they would be connected through an underground tunnel (shown in dotted lines) – the living units face the Edinburgh community

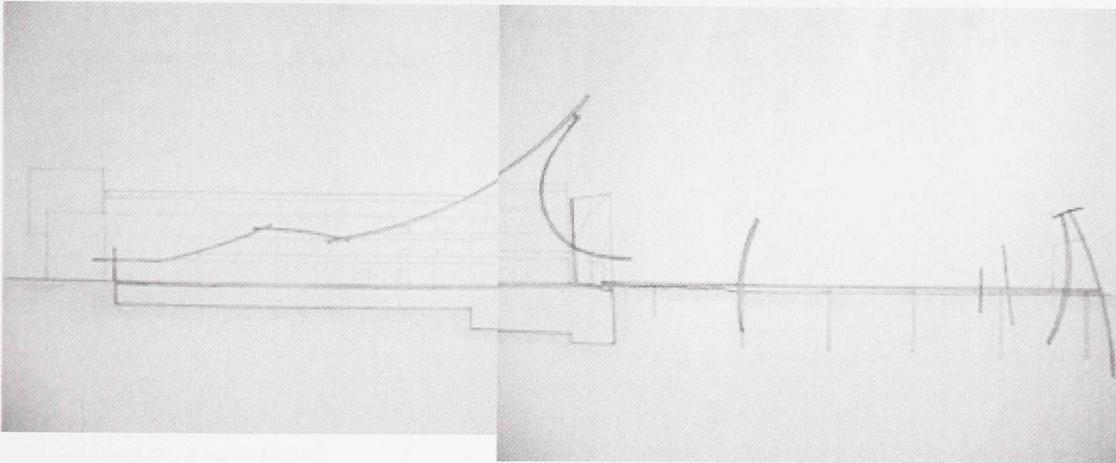


Image 35 - preliminary design section – showing a progression of emotive gestures culminating at the meditation space

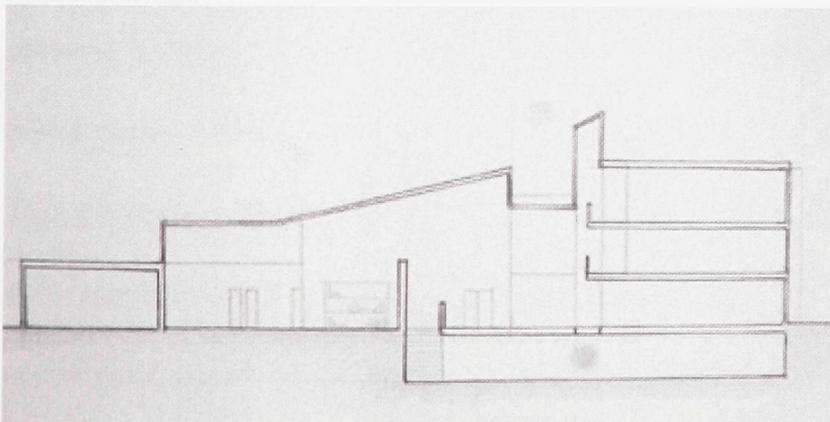


Image 36 - preliminary design section – activity rooms are at the left, the middle are communal spaces and the right shows an interstitial space against the living units

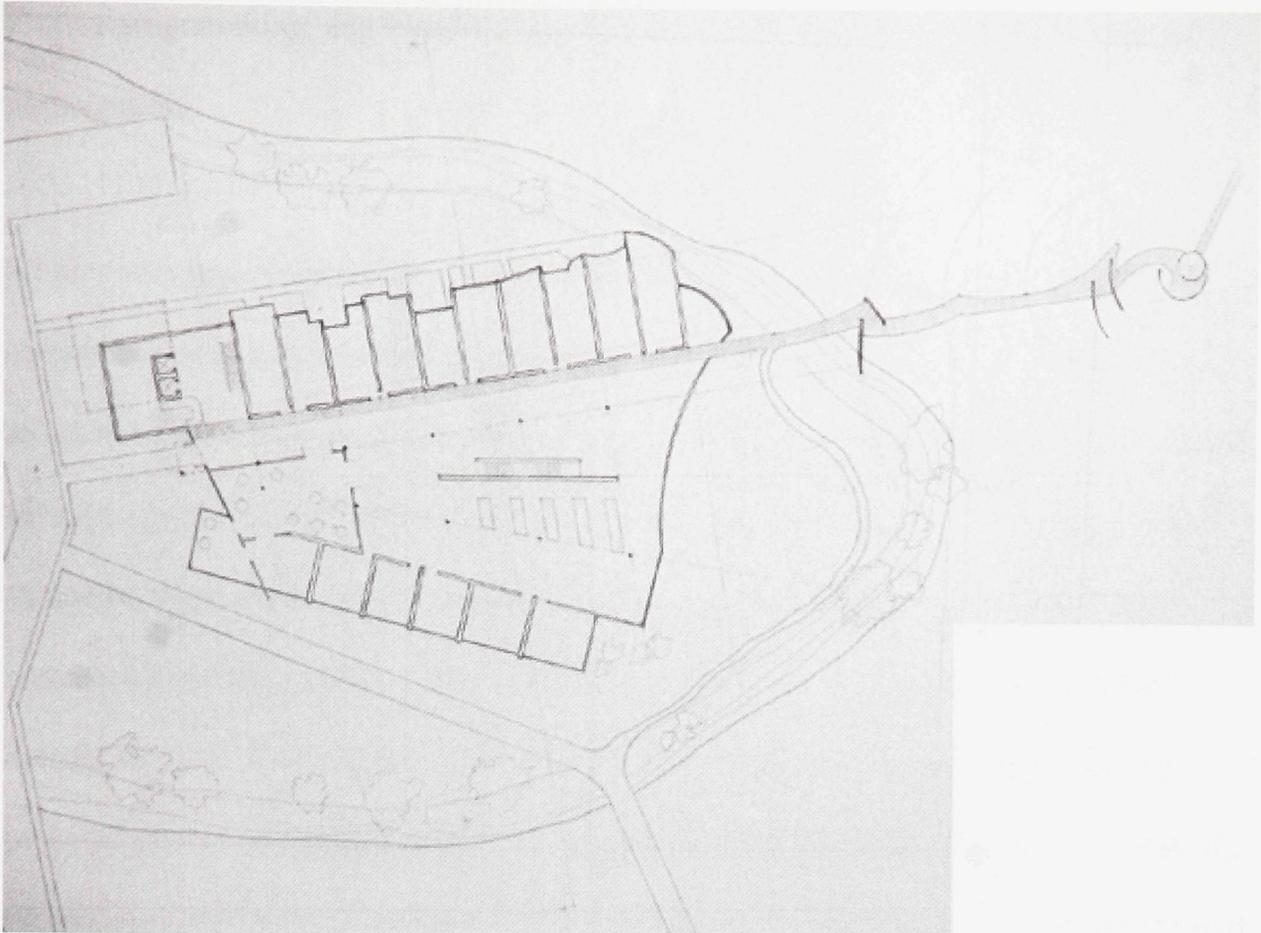


Image 37 - preliminary design plan – the plan opens up to the point of the island focusing on an outward projection and embracing more natural views

6.0 Comprehension and Conclusion

This project is intended, in part, as a prototype for independent living facilities -- a transformation of the models currently popular in the retirement sector. With the growing demand for seniors' communities, those wishing to engage in such a development could use this investigation as a point of departure for their own designs. This proposal could be adapted to other conditions and requirements. It is meant to show an example of how the independent living environment can become a dynamic and desirable place in which to live by incorporating architecturally significant features and

diverse programming, and by promoting community involvement, and active resident participation.

Similar sites and conditions can be found in other cities, especially where an existing community of elderly residents wishes to remain in its neighbourhood and where there are existing retirement or care facilities (which could be incorporated as part of a network of buildings in the area). While this is an example of an independent living building, it should be emphasized that it is meant to be very adaptable to the desires of the community and the residents. On that note, in order to test the designs that could be derived from this investigation, they could be presented to the people who would be potential clients and judged on the resulting feedback and interest. Because this kind of project would likely be provided by the private sector, the designs could be tested through marketing ventures aimed at the target demographic.

In conclusion, for all of us – but especially for those who are nearing the end of life -- hope and optimism are crucial to a high quality of life. Hope and optimism can also be paired with autonomy and community support (where one can interact on the level of giving and receiving care). In this way, someone confronting the fact that they are reaching the end of their life can accept it without looking back, and can be happy to be whom and where they are. Hope leads us to look towards the future (or even the afterlife). It promotes optimism about living, a fascination with the way things are, and enables us to enjoy life in the best way that can be managed.

The environments in which we spend of the later years of life should be anything but banal; they should be at times momentous and eschew the institutional. An independent living residence is an opportunity to foster a prospective outlook on life, leading, in turn, to inner growth, improved memory, and an overall improvement in the health of the elderly.

“Of course, the brain is a machine and a computer – everything in classical neurology is correct. But our mental processes, which constitute our being and life, are not just abstract and mechanical, but personal, as well – and, as such, involve not just classifying and categorizing, but continual judging and feeling also.”⁶³

⁶³ Sacks, Oliver. The Man Who Mistook His Wife for a Hat: And Other Clinical Tales. New York: Harper Perennial, 1970, 1981, 1983, 1984, 1985. page 20, paragraph 3, lines: 1-5.

7.0 Design Illustrations

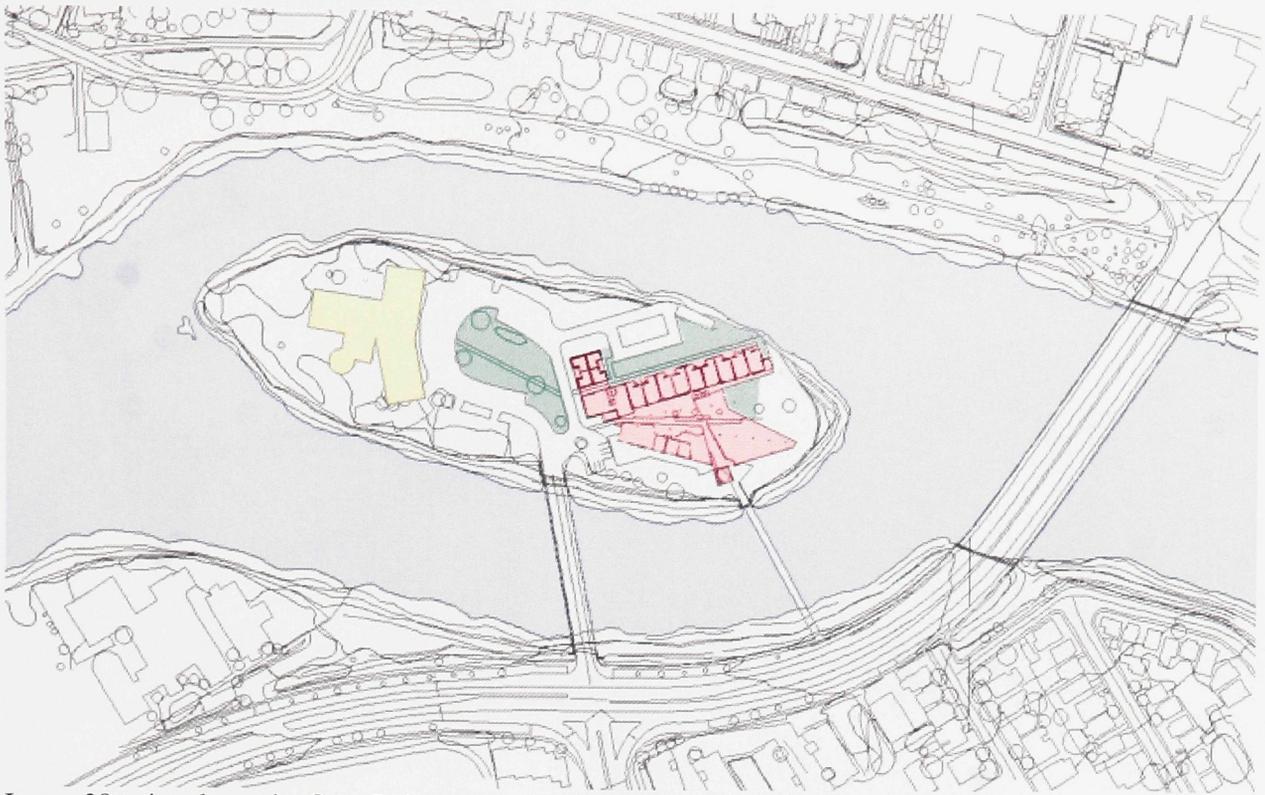


Image 38 - site plan – the Gary J. Armstrong long-term care facility is on the left – the new independent living community is at the right

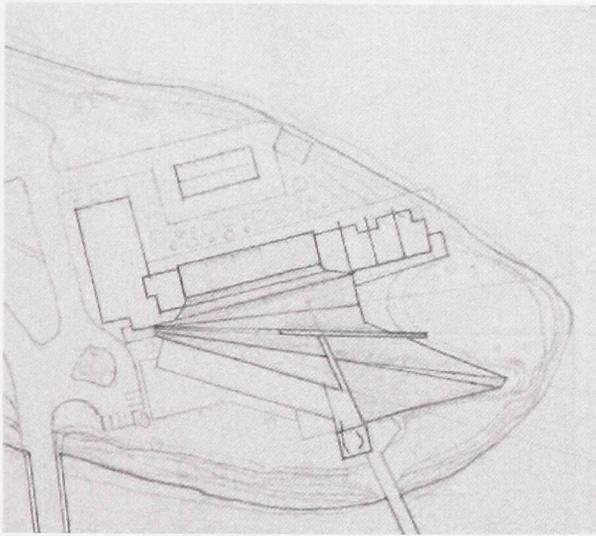


Image 39 – bird's eye view



Image 40 - plan and program

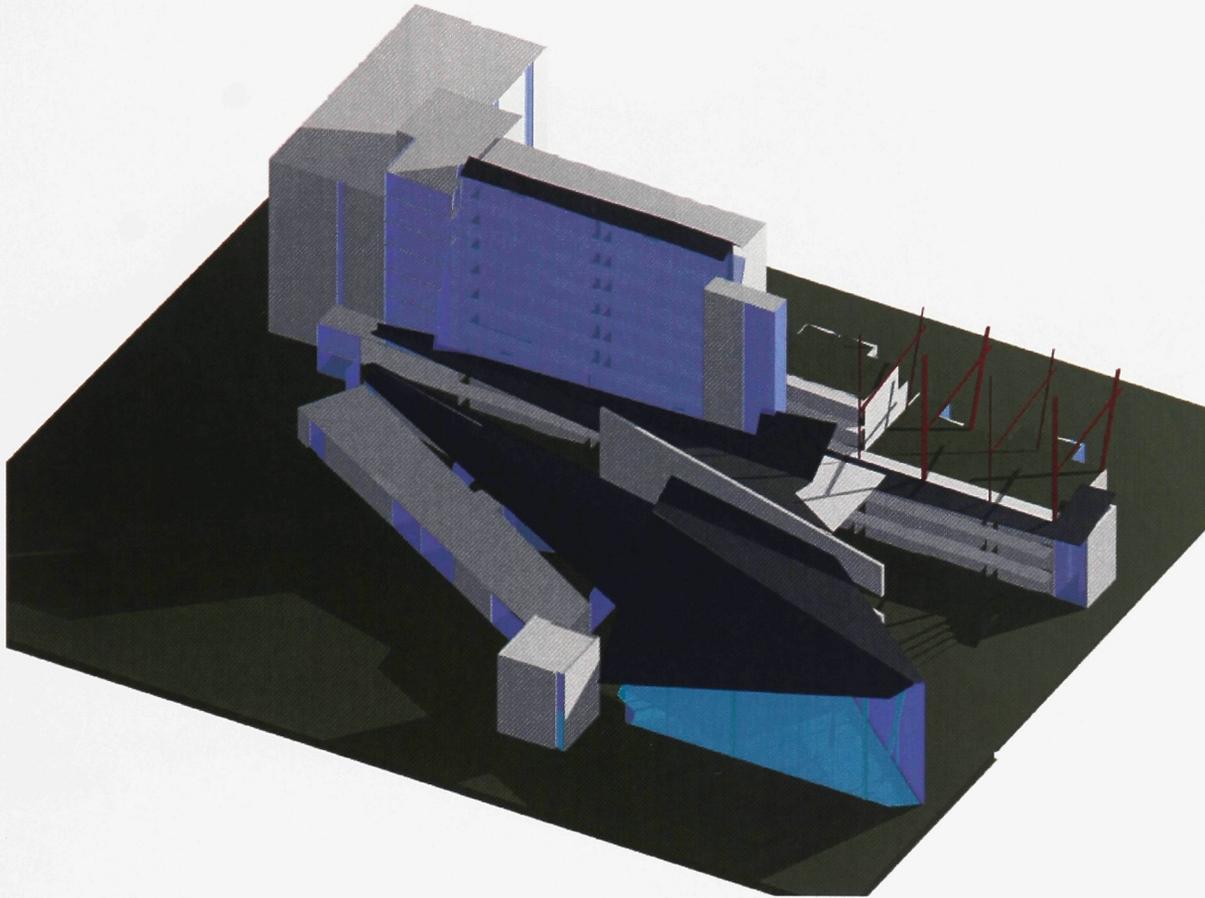


Image 41 – Digital 3D model – the folds of the roof continue over the living units

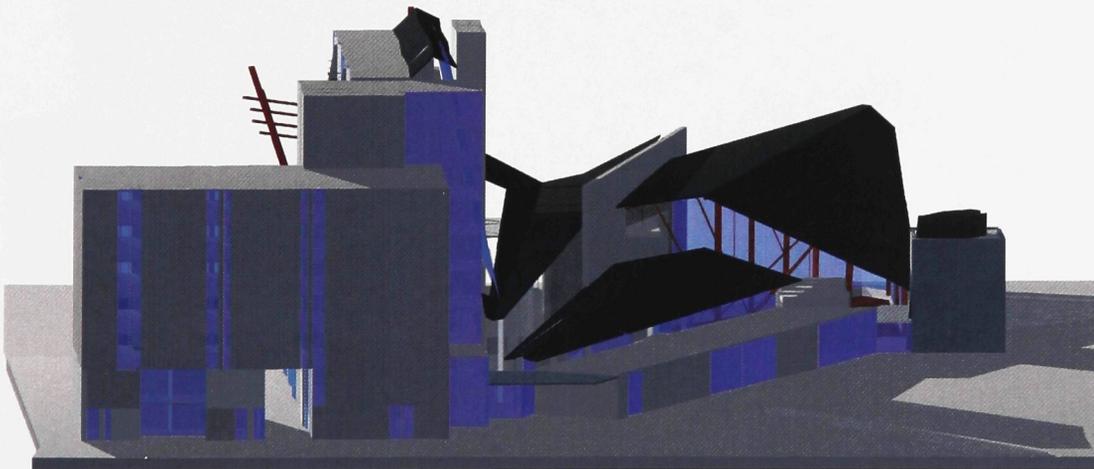


Image 42 – Digital 3D model – view of front of building (west side) - the grid is reestablished by the meditation space (at right of image)

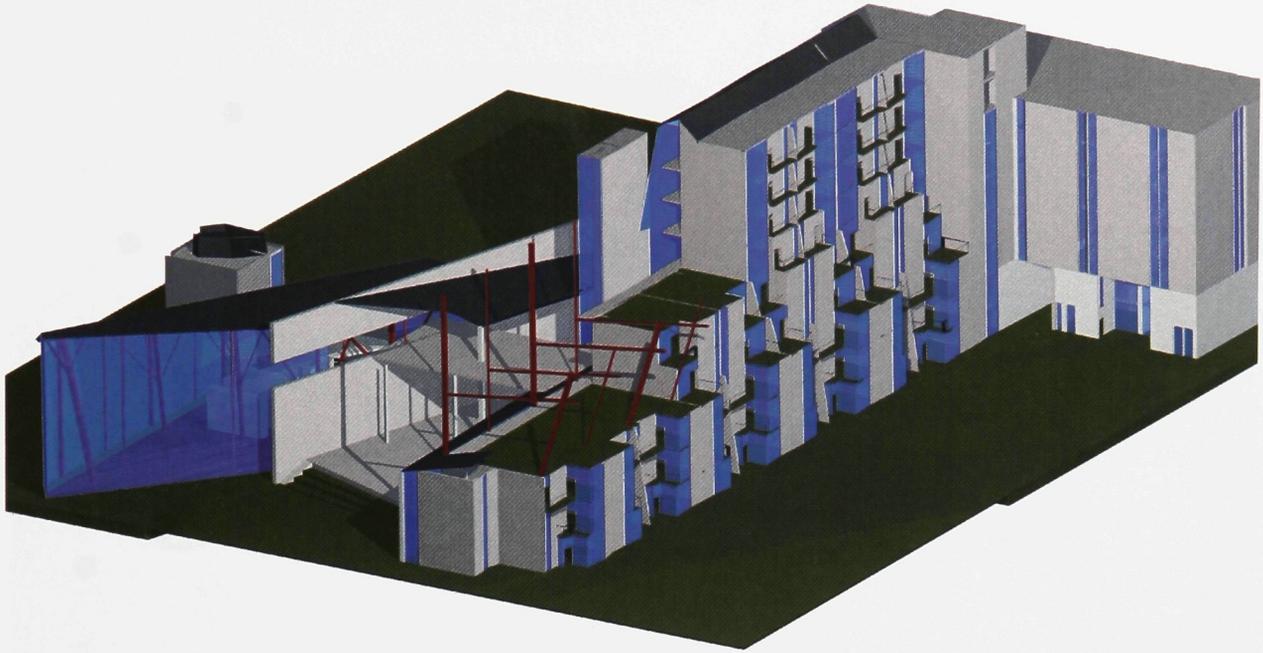


Image 43 - Digital 3D model – each living unit has its own garden space or balcony with views of other gardens



Image 44 – west side view of bass wood model

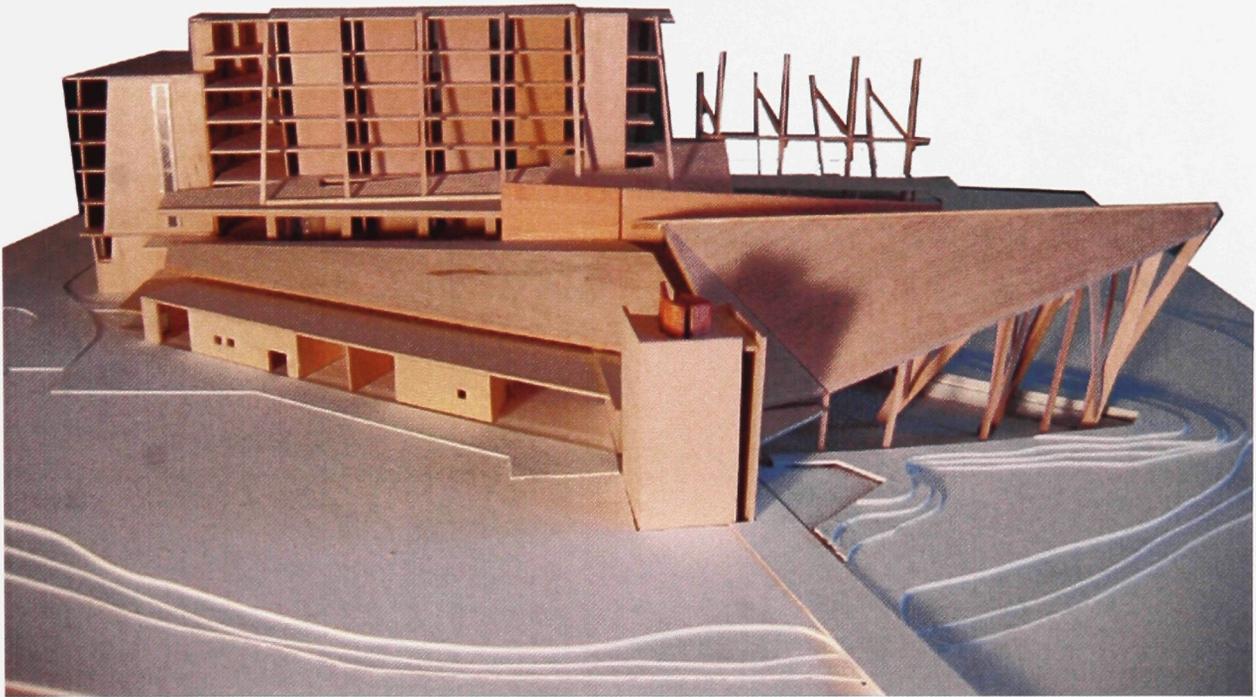


Image 45 – southern view of bass wood model

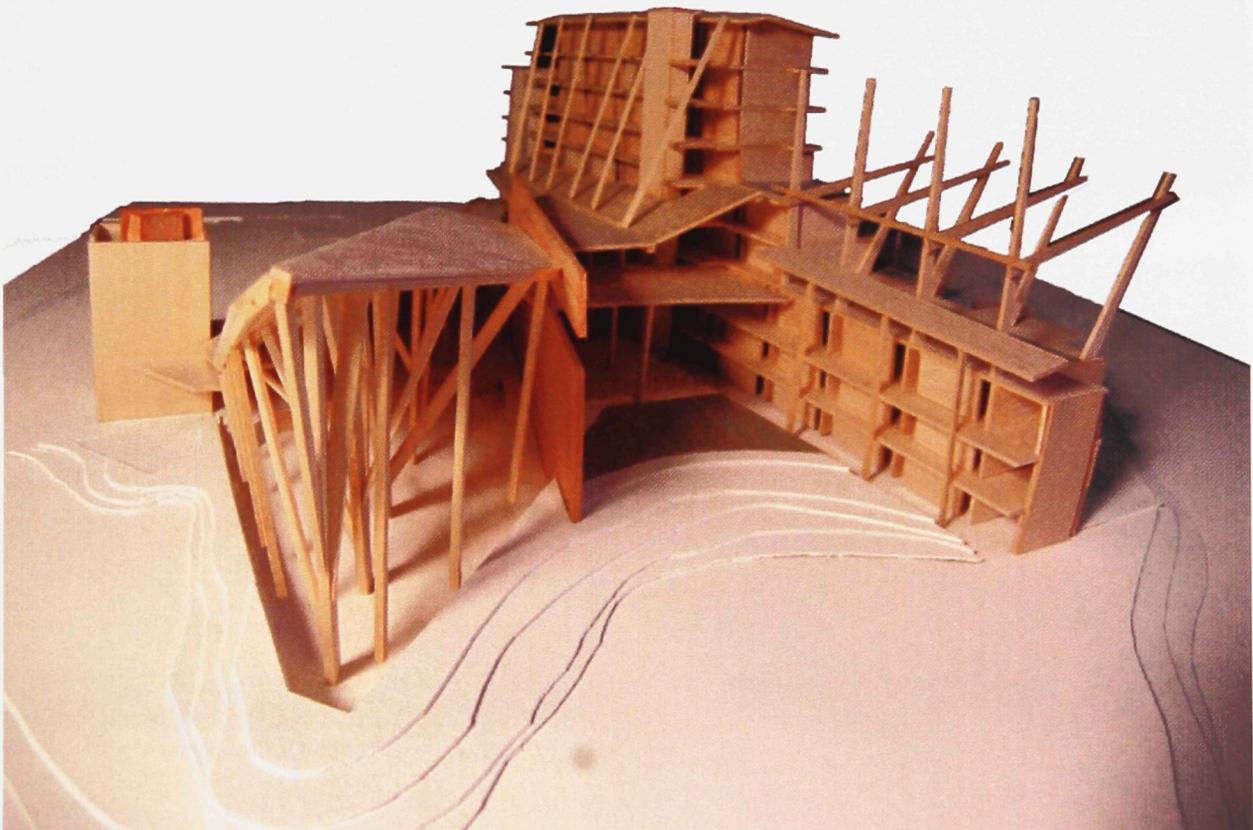


Image 46 – eastern view of bass wood model

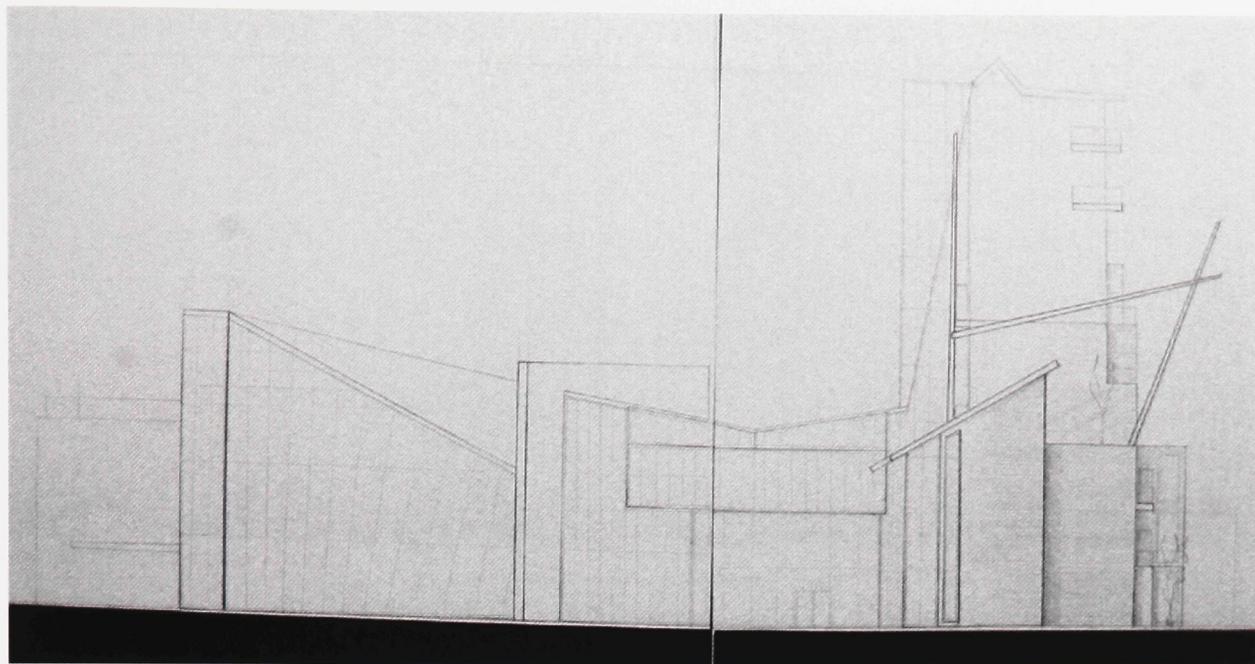


Image 47 – eastern elevation

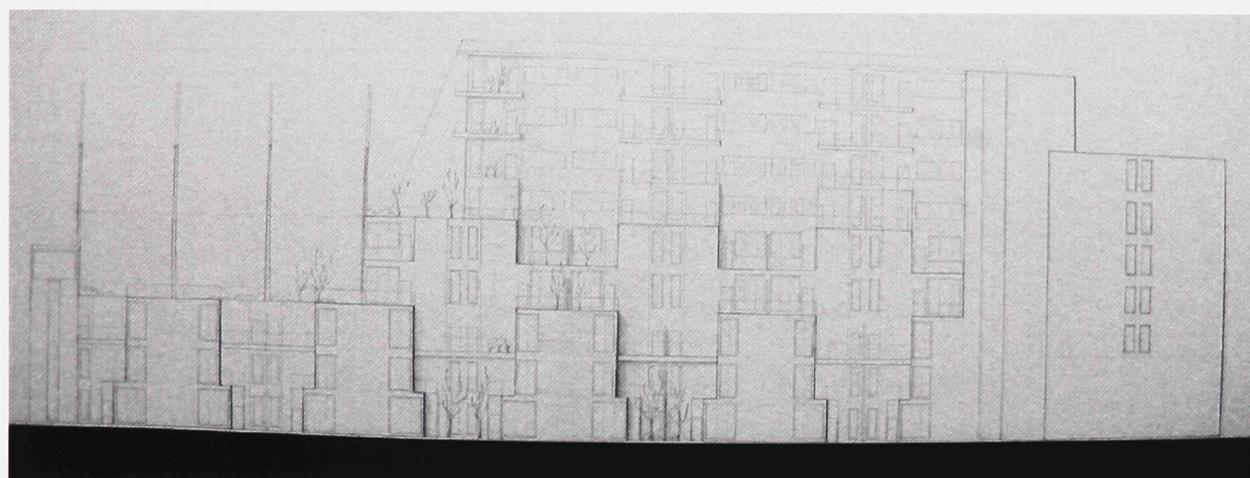


Image 48 – northern elevation

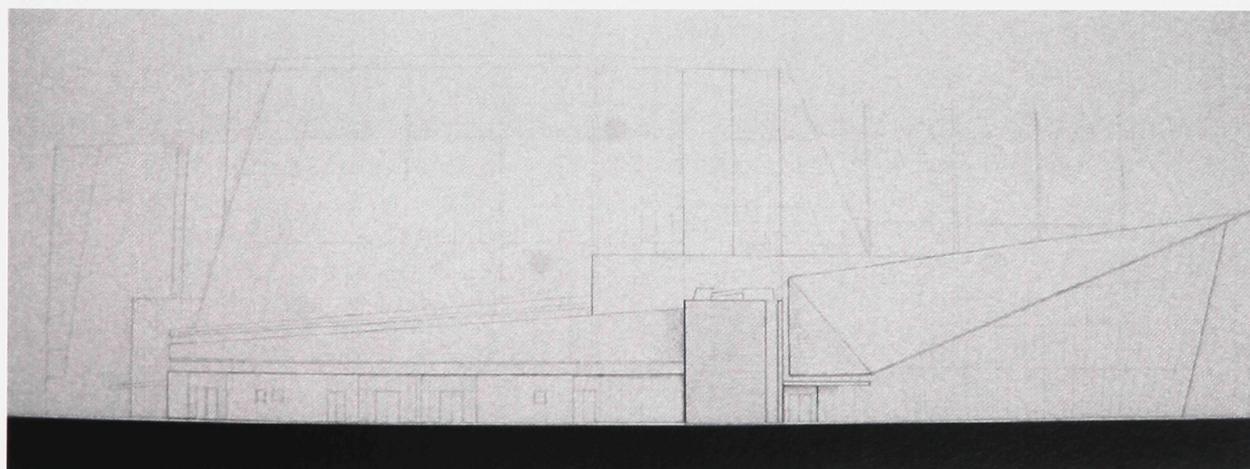


Image 49 – southern elevation

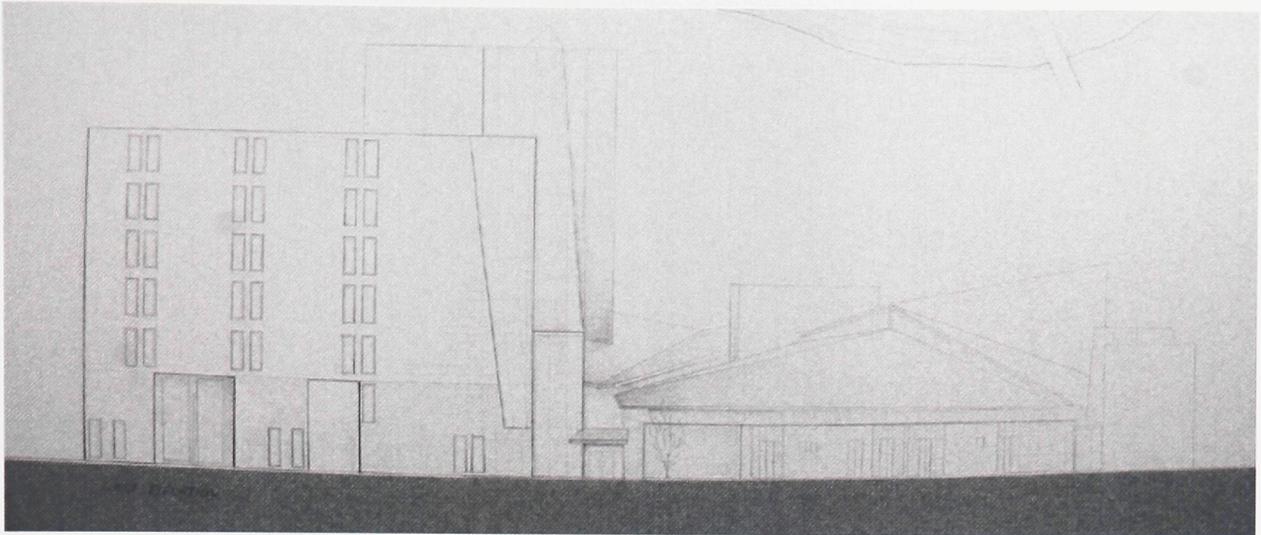


Image 50 – western elevation

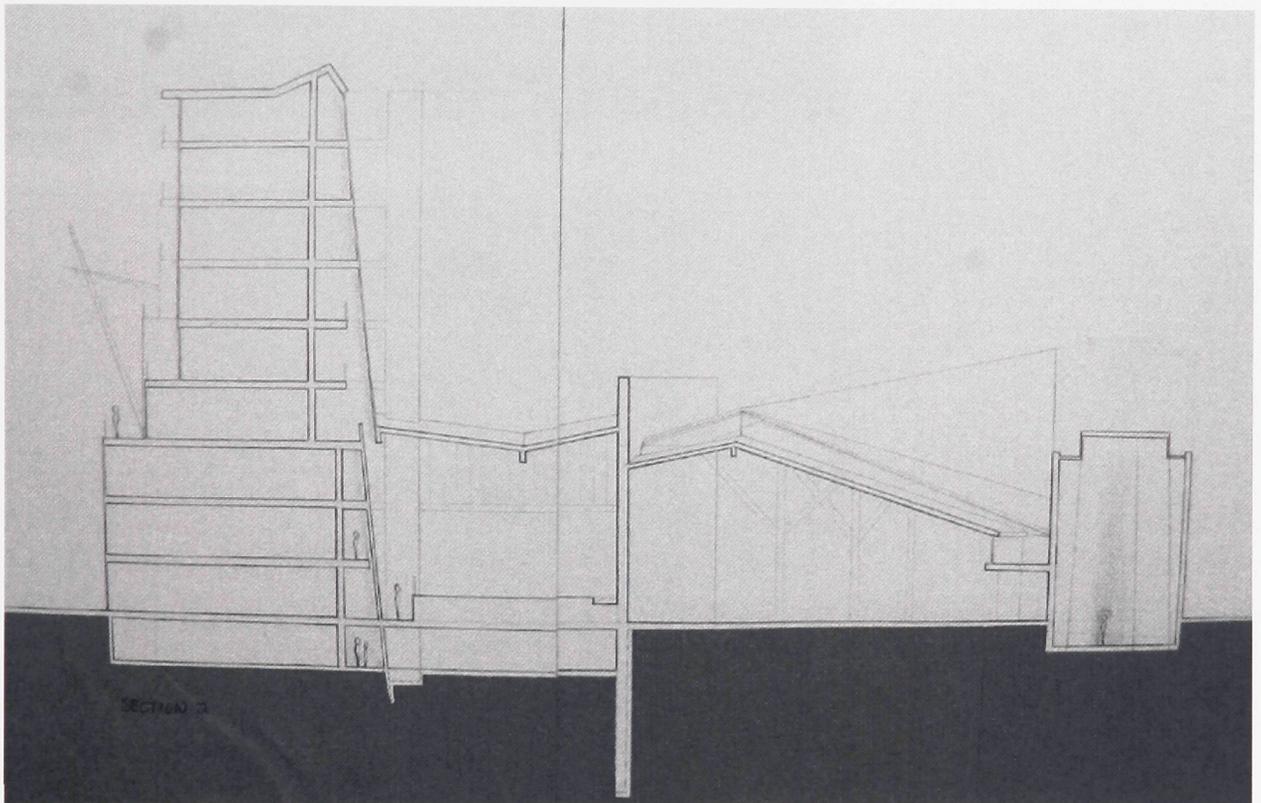


Image 51 – north/south section –showing how the units change size as they move up and how the roof folds over at the top

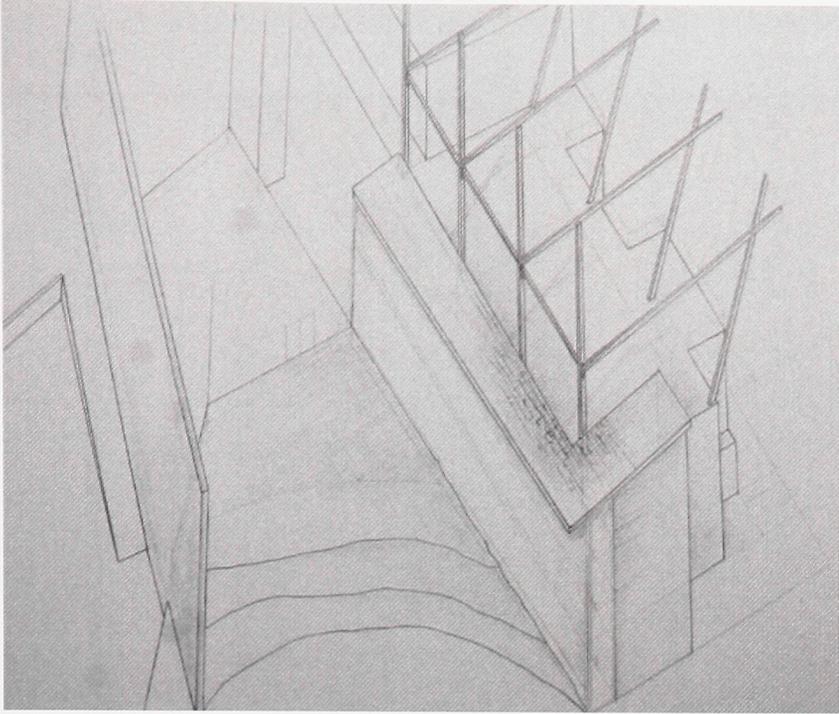


Image 52 – garden at ground level and roof garden

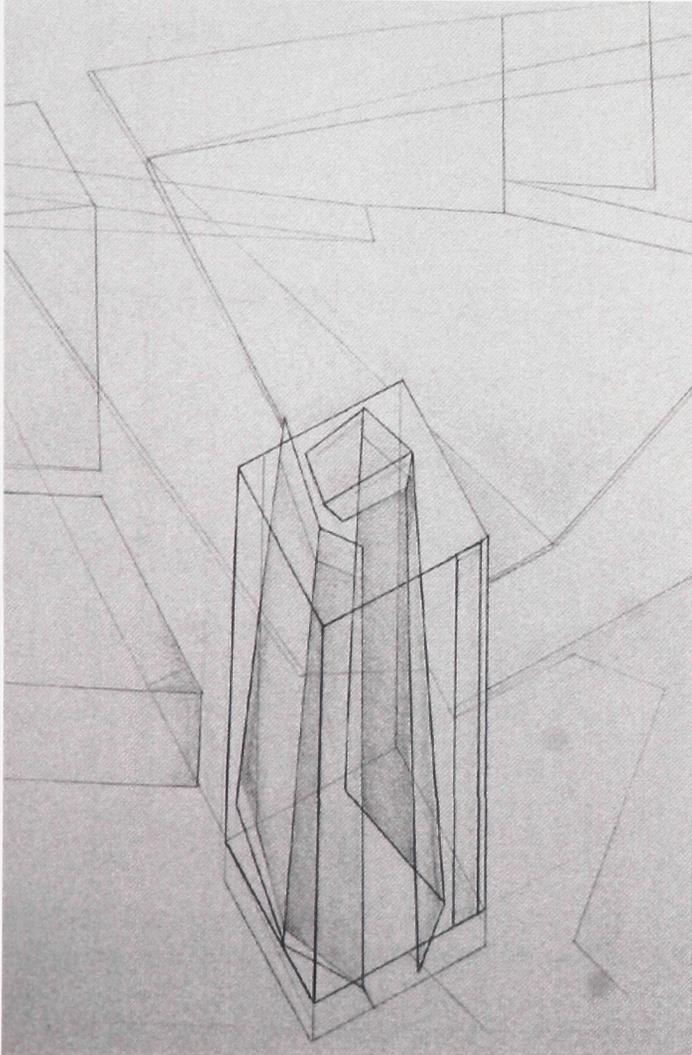


Image 53 – meditation space showing tilting walls on interior of structure

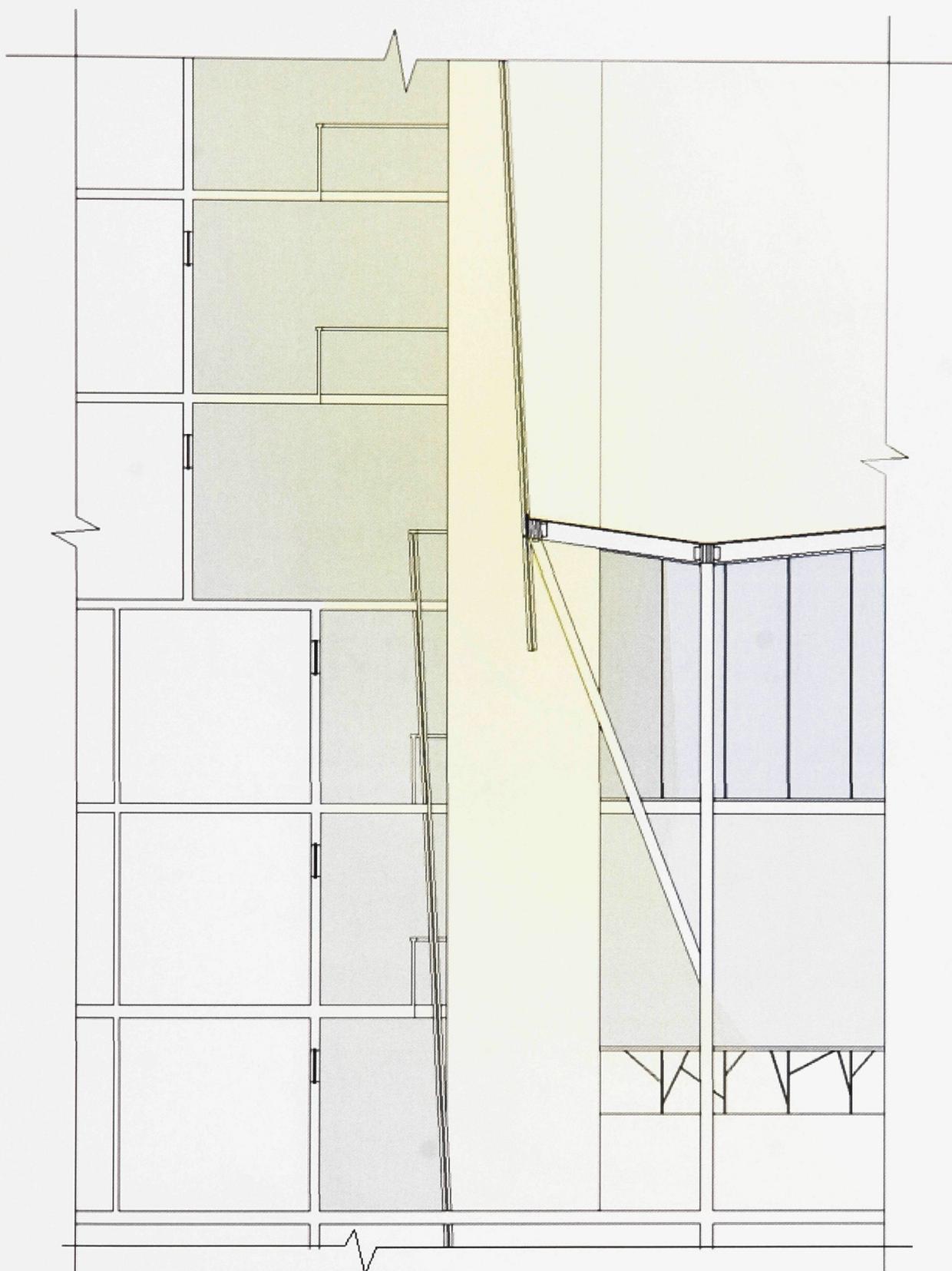


Image 54- Section of interface between living units (private space) and circulation space (public space). Interface is lit brightly by sunlight coming through the large diagonal wall which projects up over the living units.



Image 55– Section through living units on the courtyard side (northern side of building).



Image 56 – view of ground floor living units from courtyard space



Image 57 – perspective view of library space

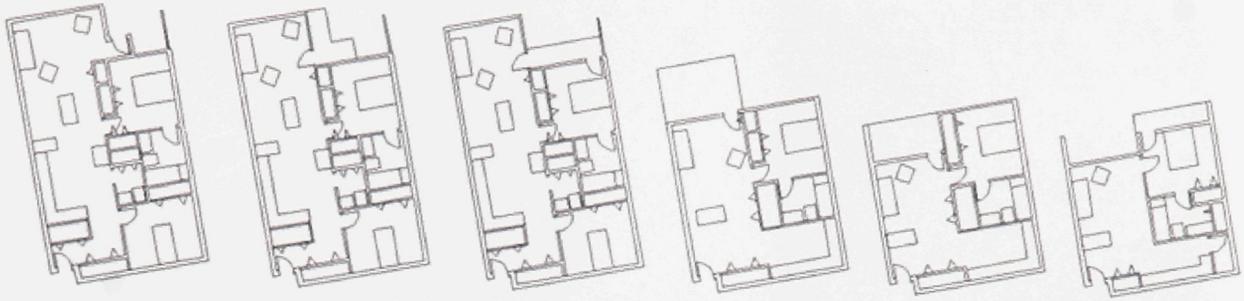


Image 58 - there are a variety of units available from two bedroom (+living, kitchen, dining, breakfast area, bath and powder room) to one bedroom (+living, dining, bath and small kitchen)

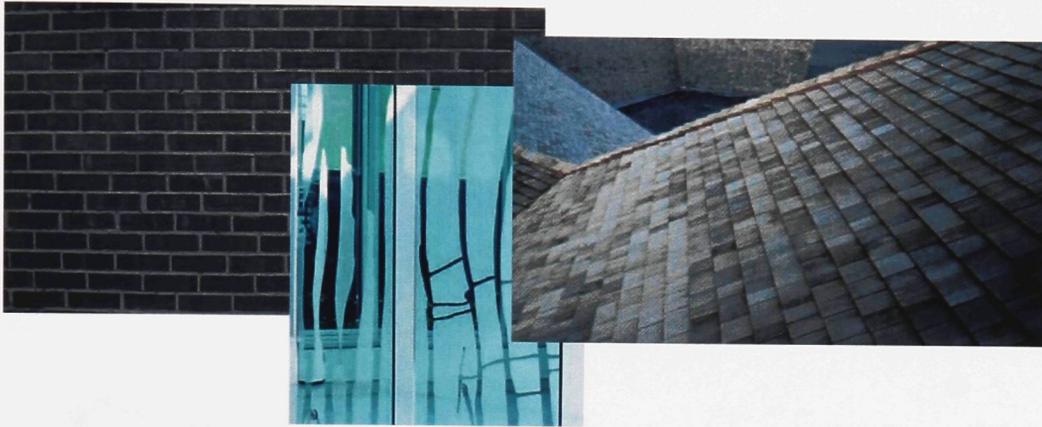


Image 59 - living unit materials (cool) – dark brick walls, semi-transparent screens on the public side and wood shingles



Image 60 - materiality of the living units – along with the brick above, there are moments of vibrant colour – this is very helpful for remembering which unit is one's own



Image 61 - materials for communal spaces (warm) – at left the stone and tile would be used for the reading room – and at right, the library space would have wood floors with elaborate wooden columns – the large wall which separates these two spaces would be a brushed rust/copper toned metal

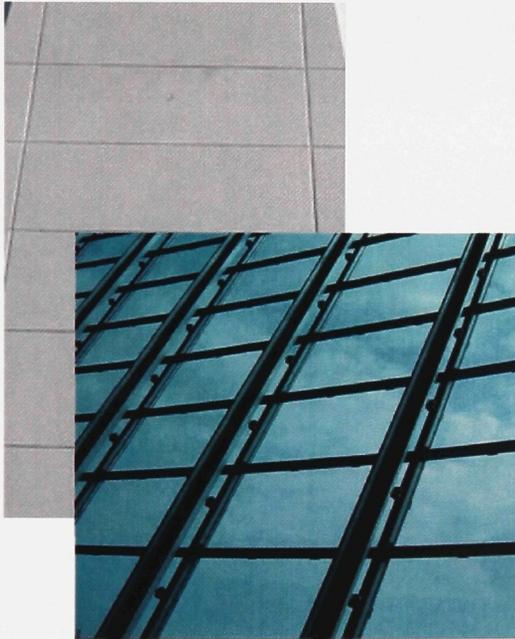
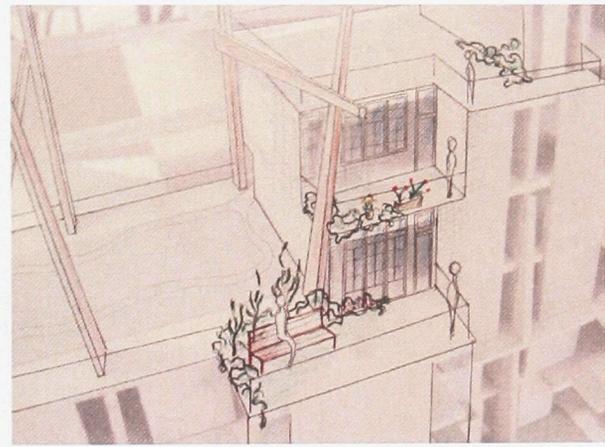
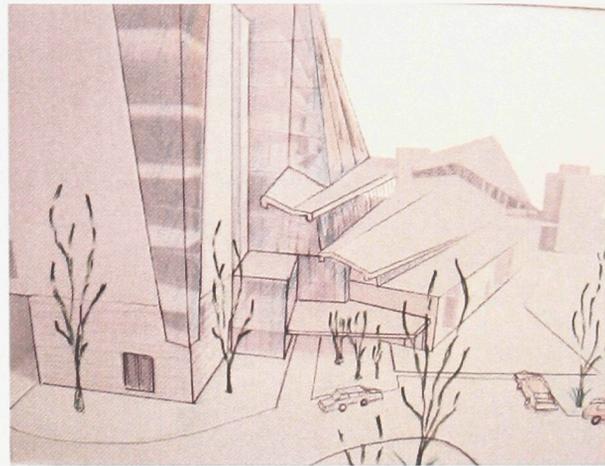
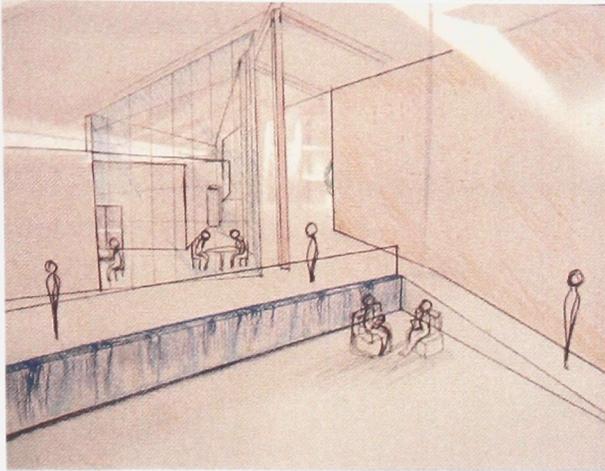


Image 62 - medical wing materials – smooth concrete paired with dark mullions on windows



Images 63, 64, 65, 66, 67 & 68 – hand drawn vignettes

7.1 Program Areas

Living units:

- ranging from 608sq.ft. for the smallest unit to 1118sq.ft. for the largest
- there are 63 units in total
- total living unit space is 54,656sq.ft.

Lounges: 9,680sq.ft.

Library: 4,560sq.ft.

Reading Room: 2,320sq.ft.

Art Studio: 1,580sq.ft.

Meditation Space: 688sq.ft.

Dining: 1,288sq.ft.

Kitchen: 374sq.ft.

Activity Rooms: 793sq.ft.

Daycare: 1,345sq.ft.

Office/Treatment Spaces: 29,220sq.ft.

Theatre: 1,580sq.ft.

Storage Space: 3,035sq.ft.

Underground Parking: 12,049sq.ft.

- there are 20 covered ground-level parking spaces and 21 underground (with the potential for more if more than one level of underground parking is constructed)

Public Washrooms: 560sq.ft.

Total Area for the building: 135,056sq.ft.

8.0 Final Design Observations

This thesis explores both the process of aging and the potential for architecture to contribute positively to this process. Designing an independent living facility is the opportunity to leverage the increased demand and resources that the aging baby-boomer population can bring to bear on the issue of retirement living -- where the long term is privileged over the short term, the unique over the institutional, and quality is valued over the quantity. Moving from a long-established home to a retirement residence is itself a kind of momentous event. The net result should be an increase in the quality of life and new (and continuing) opportunities to learn and grow.

There are some key differences between independent living facilities and other kinds of seniors' homes. To begin with, these facilities accommodate of a range of realms in which a range of users can participate, whether they are healthy enough to come and go or are, for whatever reason, housebound. A wider spectrum of users participating over a longer period of time attracts a greater number of resources in support of a wider range of scenarios – both architecturally and with respect to the services provided and the communities supported.

While a typical seniors home would offer a standard unit with little flexibility for personalization, independent living facilities offer a variety of unit types, tenures, and choices for assisted care. The “townhouse flat” communicates autonomy and individuality, but also a feeling of community. The design of the facility as a whole need

not be preempted by the necessity to negotiate 'geriatric' problems, which traditionally have been treated as ailments and managed in an institutional way. Rather, it should be designed to adapt to the cycles through which individuals go as they age – privileging health and autonomy as much as care and convalescence. This would be reflected both in diverse programming and in the expressive qualities of the architectural milieu. Salient (but humane and empathetic) architectural features can help the healthy to stay healthy while helping to orient those suffering from memory difficulties. The goal is to create an environment in which caring for one's self and caring for others would be a pleasure -- someplace stimulating, interesting, warm, integrated, and imaginative. An independent living facility should be a place with which one can form a long-term relationship, a community in whose success one has a deeply personal stake.

The design portion of this thesis was an attempt both to test and achieve the goals I set for myself. Among the challenges I encountered was the tendency to create situations that were too disorienting. At one point the design included an uneven pathway meant to simulate how the elderly might feel when going through a setback (illness or loss of mobility). This was done to allow visitors to better empathize with the residents. But because the path would likely have been used more by residents than visitors, it made matters worse, not better (it would not be ideal to confuse or create unstable conditions for the elderly). Another challenge was integrating the very expressive communal areas with the more rational dwelling units. At times they appeared to be too separate from each other. In the end I projected the structural module of the residences through the more dynamic portions of the building and wrapped the roof of the communal portions up

over the residential block. Another challenge was finding the right type and mix of programs. Quite late in the process I added a day care for children -- by way of encouraging the general public to interact with the site and further diversifying the demographic of the users.

Overall the design is about creating a high quality of space (with respect to materiality, the ability to navigate, and the emotional connections one might form), denoting a high level of care and respect for users (expressed in the design, the services available and the overall accessibility) and creating occasions for inner growth (where residents are given the opportunity to make choices for themselves, encouraged to draw their own interpretations in support of a prospective outlook on life).

9.0 Bibliography

Primary Sources

1) Brawley, Elizabeth C. Design Innovations for Aging and Alzheimer's: Creating Caring Environments. New Jersey: John Wiley & Sons Inc., 2006.

In this book the issues of aging are raised as an up-to-date reality of those affected by age-related health problems. At the beginning, more common problems such as arthritis, hearing impairment, and stroke are defined before moving on to the major topic about Alzheimer's disease (a major neurodegenerative disease for which there is no known cure). The emphasis is directed towards creating care environments and imparting the design elements that can benefit different impairments brought on by aging and possible health problems. Detailed descriptions are provided for case studies of care homes such as the 'Green House Project', followed by notes on how they are successful. The importance of humane care of the individual is stressed throughout.

2) Various Authors; Edited by Campbell, Ruth, and Conway, Martin A. Broken Memories: Case Studies in Memory Impairment. Cambridge, Massachusetts: Blackwell Publishers Ltd., 1995.

This is a book made up of a series of case studies about people affected by memory impairments. The disorders range from the amnesic to a simple decline in memory with age. The book promotes the study of these cases according to the uniqueness of each individual. It shows how memory, as a part of the limbic system of the brain, is made up of a multitude of brain systems rather than one or two general areas. Overall it puts forward the idea that it is difficult to combine and make general different kinds of memory afflictions because they are each unique on a per-person basis.

3) Various Authors; Edited by Duncan, John, and Phillips, Louise, and McLeod, Peter. Measuring the Mind: Speed, Control, and Age. New York: Oxford University Press, 2005.

In Chapter 2 (Inconsistency in response time as an indicator of cognitive aging), David F. Hultsch, Michael A. Hunter, Stuart W. S. MacDonald, and Esther Straussage relate several memory issues of the aged to; slow rates of information processing (change in speed), loss of response time, decreased accuracy, and inconsistency (intraindividual variability). The most important issue they describe is intraindividual variability. This refers to relatively rapid and transient shifts in behavior that may be distinguished from relatively enduring changes such as learning or development.

They suggest in their writing that inconsistency in response time could be caused by random errors or neural noise (i.e. the transmission of signals in the central nervous system (Hendrickson, 1982)). They link this to current hypotheses in gerontological literature that propose aging-related cognitive declines as a function of increased

information loss due to neural noise or random breaks with neural networks. This leads to the idea that many elderly suffer from lapses of attention and that this must be provoked strongly in order to benefit memory function and life experience.

4) Foucault, Michel. The Birth of the Clinic: An Archaeology of Medical Perception. New York: Pantheon Books, 1973.

Foucault's book was published in 1963 in France, and translated to English in 1973. The Birth of the Clinic traces the development of the medical profession, and specifically the western institution of the clinic developed in the 18th century. Here he explains the principle of medical knowledge forming at a patient's bedside through teaching. The clinic operated as process of selection, showing off the best cases of disease and dealing with the business of how to decipher them. The essence of the clinic was the dissociation of the immediate relationship between sickness and that which alleviated it. Ultimately, Foucault claims that this form of clinic has gradually led to the decline of medical institution today. There are still several similarities and the overall way that the doctor regards a patient is still too clouded in secrecy and privileged knowledge.

5) Frampton, Kenneth. "Critical Regionalism: Modern Architecture and Cultural Identity." Modern Architecture: A Critical History. New York: Thames and Hudson Ltd, 1992.

Kenneth Frampton is an architectural writer who strives to counteract the placelessness and lack of meaning in modern architecture. This chapter puts forth the theory that contextual elements can give the best sense of place or a more rooted quality. He is against the universal or generalized tactics of modern architecture (although not the progressive ideals) and instead promotes more individualized space based on the qualities of the location of the project. This means new forms may be necessary to complement local climates and sun patterns or different materials should be used due to their natural occurrence in the region. Qualities such as topography, climate, light, and tectonic form are important though they need not be literally drawn from the context but derived from it.

6) Gadamer, Hans-Georg. The Enigma of Health: The Art of Healing in a Scientific Age. California: Stanford University Press, 1996.

Gadamer is particularly interested in how the domain of science extends into realm of life. In this book he speaks of the modern medical world and its battle with the body's states of equilibrium; between health and illness.

He defines illness as something turned inwards, where one is thrown back on oneself due to the experience of something 'lacking'. This inward attention points to some of the confines of the medical profession today. For example, healing cannot be entirely attributed to the doctor. They may cure a person's disease, but other factors may take part in the ultimate recovery of health. Another example, chronic illness, is an area where the

limitations of medical technology are most prominent because they simply cannot be taken away and they are so involved with the 'being' of the person.

The *enigma of health*, as described by Gadamer, is that the work of a physician does not remain theirs. The doctor's intervention cannot properly be understood simply as making or affecting something, but must rather principally be seen as a case of supporting those factors that help to sustain equilibrium (pg 37). Medicine is never entirely understood as a technology, precisely because it invariably experiences its own abilities and skills simply as a restoration of what already belongs to nature (pg 39).

7) Gesler, Wilbert M. Healing Places. Lanham, Maryland: Rowman & Littlefield Publishers Inc, 2003.

The major issue of this book is about relating a place to the act of healing and how they are inseparable. Everyone knows and associates certain places that seem to be more 'healing' than others. This book deals with the types of environments that achieve a healing sense of place which are; the natural (belief in nature as healer, beauty, remoteness, specific elements of nature), the built (sense of security, affects the senses, pride, symbolic power of design), the symbolic (creation of meaning, physical objects as symbols, importance of rituals), and the social (equality in social relations, legitimization, therapeutic community concept, support)

8) Gregory, R.L. Eye and Brain: The Psychology of Seeing. London: Weidenfeld & Nicolson Ltd, 1979.

Proceeding from biological explanations of how the eye works (eye muscles, retina, image-making areas of the brain) this book moves into the explanation of how we interpret the data brought in through the eye. It describes how images are recognized through interpretation but also more uncommon observations such as how the brain controls the path and movement of the eye (rather than the other way around). Sometimes perception can prove false and things can go wrong (illusions). We have learned ways of perceiving and we have a set of cues that lead us to perceive. Sometimes these cues produce incorrect results.

9) Hahn, Robert A. Sickness and Healing: An Anthropological Perspective. New Haven: Yale University Press, 1995.

Robert A. Hahn presents a study of healing and sickness as it varies from time and place, and especially with an emphasis on bringing out examples which are non-Western and looking at the issues as cultural systems which are neither right nor wrong in their approach and method. In the first part of the book, the ideas of sickness and healing and their various meanings in different cultures are explored. In the second half, biomedicine as a more Western point of view is related to an anthropological stance drawing out commonalities between different cultures.

10) Illich, Ivan. Medical Nemesis: The Expropriation of Health. London: Calder & Boyars Ltd, 1975.

Illich writes about the 'medicalization of life' in his book titled "Medical Nemesis". He argues against a professional and physician-based health care system which has overstepped its bounds. For example, the system is based on damages which must outweigh benefits and the system most often takes away the individual's ability to heal themselves. Illich focuses on issues such as the transforming nature of pain, impairment and death. He makes distinctions among his writing about self-governing and administered management of health.

11) de Kerckhove, Derrick. The Architecture of Intelligence. Basel, Switzerland: Birkhauser, 2001.

De Kerckhove is concerned with an architecture that is closely connected to the electronic era of today. Currently there are three kinds of space which we inhabit; the mind, the world and the space of networks. Through the exploration of the ways that these three spaces can be experienced and connected through cyberspace and architecture, de Kerckhove projects an importance upon the need for an architecture which allows access to the virtual. His suggested solution for a truly 'connected' architecture is through surfaces and membranes (even screens) which can signify the connection of matter and mind, or the virtual and the real. The idea of the intelligence lies within this connectivity.

12) Merleau-Ponty, Maurice. "The Intertwining –The Chiasm." The Visible and the Invisible. Evanston, Illinois: Northwestern University Press, 1968.

Maurice Merleau-Ponty describes the rich experiences of the human ability to perceive media in their own environment. In the chapter titled "The Intertwining – The Chiasm" in "The Visible and the Invisible" Merleau Ponty develops to concept of 'body-subject'. This means that the body as something which perceives is intertwined with the object that is being perceived. They are inseparable because our mind constructs the very meaning and recognition of the object within us. Being able to connect with the observable object is a kind of reflection of the self. The self is what makes the object what it is, so it is essentially within the mind already. In the same sense, the act of seeing is embodied in the object itself because they are entangled together.

13) Pacey, Arnold. Meaning in Technology. Cambridge: MIT Press, 2001.

The intention of this book is to be able to describe and acknowledge the personal and experiential side of our understanding of technology. These days it is commonly seen as futile to describe technology in terms of ideals and imagination, because these things are too personal and highly subjective. It is easier to discuss technology in terms of rational political or economical terms, like 'efficiency' or 'appropriateness'. Arnold Pacey wants one to feel the experiential quality of technology on an individual level as if this is the normal way to respond to it. To summarize the content of this book, the first describes the direct experience of technology in terms of the visual, tactile, and musical experiences

that accompany various kinds of technology and mathematical work. In the second half of the book Pacey deals with the contexts in which technology is used related to nature and society. Overall, this book is first about exploring Pacey's own vision of the meaning and experience of technology and he acknowledges personal experience as a valid way to interpret it. Secondly, his aim is to consider ways of discussing personal experiences without devaluing them with comments about subjectivity.

14) Pillemer, David B. Momentous Events, Vivid Memories. Cambridge, Massachusetts: Harvard University Press, 1998.

David Pillemer's specialty is autobiographical memory across the life span. He has studied memory development in children, "flashbulb" memories of momentous events, memories of educational experiences, and cultural and gender differences in memory performance.

In this book the topic of personal event memory is described with relation to several subjects such as; how memorable events are formed, the visual and narrative aspects of memory experience, and what makes one susceptible to a momentous or vivid memory. By the end, Pillemer suggests that personal memory events and the ability to apply them to life (in order to make judgements about the future) is a form of intelligence.

15) Sacks, Oliver. A Leg to Stand On. New York, NY: HarperCollins Publishers Inc., 1993.

Oliver Sacks is a physician and author who focuses his writing on how individuals adapt to neurological conditions that affect the everyday life. It is in the unique experience of the person where Oliver Sacks dwells to bring out intuitive and thought provoking stories they have to tell. This novel describes an incident where Oliver Sacks severely injured his left leg while out exploring a mountain in Norway. He describes the first hand experience of becoming a doctor-turned-patient and what he goes through physically and emotionally. Some of the most important aspects include his description of the communication barrier between himself and his doctor and colleagues as well as his tribulations with experiencing a "phantom-limb". When he can no longer recognize his own left leg, Sacks knows the extent of neurological damage in his brain, but also can't help but share inner struggle at trying to make sense of it. It is a first hand account of personal experience and how it ultimately benefited his relation with subsequent patients under his care.

16) Sacks, Oliver. Seeing Voices; A Journey into the World of the Deaf. California: University of California Press, 1989.

"Seeing Voices" is an exploration into the unique world of the deaf where language and culture are tightly shared among its members. The story presents a difficult history of struggle for acceptance in the hearing world as well as a development of the visual Sign language. Oliver Sacks acknowledges how a new mode of communication such as Sign can open up new communicative opportunities not only in the deaf, but in the hearing

aswell. The act of learning a new language can open up new perceptual experiences and shows the great potential the brain has for visual comprehension and to adapt to different modes of communication.

17) Sacks, Oliver. Awakenings. New York, NY: HarperCollins Publishers Inc., 1990.

This book imparts several cases of patients affected by Encephalitis Lethargica or “Sleeping Sickness”. It is a disease which has exceptional variability in effects it can have on different patients. The symptoms are physically debilitating (for example: inability to stop moving or to move, inability to speak, loss of control of bodily functions and much more), but they physical symptoms also relate to the individuals character, past circumstances, ability to cope, family situation as well as some unforeseen chance. Oliver Sacks is in charge of several patients at a long-term care facility whose stories are told in this book during the drug trial period of L-Dopa. “Awakening” describes the point where several symptoms were relieved for varying periods of time due to the revolutionary medication. The book advances that there is a need for human contact and care for individuals affected by disease or illness. Due to the unconventional nature of “Sleeping Sickness”, the treatment and diagnosis of these patients was equally unique.

18) Sorabji, Richard. Aristotle on Memory. London: Gerald Duckworth & Company Limited, 1972.

This book deals with the theories of Memory as described by Aristotle but related to Plato and subsequent interpretations by others and the author. For example, in the chapter titled, “Recollection”, Sorabji presents Aristotle’s theory of recollection as related to Plato’s view with some interpretations of his own. Plato’s view of recollection is that it is a route to the knowledge of dialectical inquiry (a form of dialogue) and that it also implies we know things prior to our knowledge of them (and the only time to acquire this knowledge is prior to birth). Aristotle does not agree about the prior knowledge issue but agrees that recollection is important for debate dialogue. The author notes how Aristotle does not think that recollection is learning; one may move through a series of ideas or associations completely within one’s self to new ideas, but learning takes the transmission of knowledge from someone else. At this point the author disagrees and comments how one can learn by recollecting on their own without outside help and that outside help can help one recollect (like a memory-jog). This book also includes a translation and interpretation of Aristotle’s “De Memoria et Reminiscentia” where key subjects include time, perception, association, and the body related to memory and recollection.

19) Yates, Frances A. The Art of Memory. London: Routledge and Kegan Paul, 1966.

Yates explores the techniques of memory and how perceptions of what memory is about have changed over time. For example, the method of memorizing (mnemonics) the encyclopedia of knowledge (17th century back) has changed to reflecting, investigating and discovering new knowledge through the use of memory. It now survives as a factor in the growth of scientific method.

Yates identifies natural and artificial memory processes. Natural memory comes solely from the gift of nature without aid and artificial memory is the auxiliary and assistant of natural memory. Artificial memory needs both images and places (locus). These are helpful because one knows from experience that places and images call up associations from memory and can then lead to the flow of other thoughts and understandings.

Secondary Sources

- 1) Bertol, Daniela. Designing Digital Space: An Architect's Guide to Virtual Reality. New York: John Wiley & Sons Inc, 1997. 282.
- 2) Cage, John. Silence. London: Calder and Boyars, 1968.
- 3) Chapters by various authors; edited by DiLalla, Lisabeth F. Behavior Genetics Principles: Perspectives in Development, Personality, and Psychopathology. Washington DC: American Psychological Association, 2004.
- 4) Ekos Research Associates Inc. Housing Needs of the Environmentally Hypersensitive – Socio-Economic and Health Factors. Ottawa: Canada Mortgage and Housing Corporation, 1997.
- 5) Flett Consulting Group Inc. Evaluation of the Barrhaven Multi-Unit Housing for the Environmentally Hypersensitive. Ottawa: Canada Mortgage and Housing Corporation, 1997.
- 6) Foster, George M. Medical Anthropology. New York: John Wiley & Sons, 1978.
- 7) Gregory, R.L. The Intelligent Eye. London: Weidenfeld & Nicolson Ltd, 1970.
- 8) Helman, Cecil G. Culture, Health and Illness. London: Butterworth & Co. Publishers Ltd., 1990.
- 9) Kreitler, Shulamith & Hans. The Cognitive Foundations for Personality Traits. New York: Plenum Press, 1990.
- 10) Los, Sergio. Carlo Scarpa: An Architectural Guide. Verona: Arsenale Editrice, 1995.
- 11) McCrae, Robert R. Personality in Adulthood. New York: The Guilford Press, 1990.
- 12) O'Reilly, James T., Hagan, Philip, Gots, Ronald, Hedge, Alan. Keeping Buildings Healthy: How to Monitor and Prevent Indoor Environmental Problems. New York: John Wiley & Sons Inc., 1998.
- 13) Porter, Roy. Madness: A Brief History. New York: Oxford University Press, 2002.
- 14) Rossi, Aldo. The Architecture of the City. Massachusetts: The MIT Press, 1982.

15) Sacks, Oliver. The Man Who Mistook his Wife for a Hat: and Other Clinical Tales. New York: Harper Collins Publishers, 1970, 1981, 1983, 1984, 1985.

Websites

1) Alzheimer Society. Changes in the Brain. Toronto: Alzheimer Society of Canada, 1997-2006. <<http://www.alzheimer.ca>>.

2) American Association of Retired Persons. "Continuing Care Retirement Communities." AARP. Washington DC: AARP, 1995-2007. <www.aarp.org>.

3) The American Heritage Dictionary of the English Language; Fourth Edition. "Epiphany." Bartleby.com. Boston: Houghton Mifflin Company, 2000. <<http://www.bartleby.com/61/6/E0180600.html>>.

4) Barrett, Stephen. "Multiple Chemical Sensitivity: A Spurious Diagnosis." Quackwatch. Allentown, PA: Quackwatch, 2000. <<http://www.quackwatch.org/01QuackeryRelatedTopics/mcs.html>>.

5) Baycrest. Memory Loss and Dementia: Types of Memory. Toronto: Baycrest, 2007. <<http://www.baycrest.org>>.

6) Beyer, Christian. "Edmund Husserl" Stanford Encyclopedia of Philosophy. California: Stanford University, 2007. <<http://plato.stanford.edu/entries/husserl/>>.

7) Carter, Sheryl. "Biography." Oliver Sacks. New York, NY: Oliver Sacks, 2004. paragraph 4. <www.oliversacks.com>.

8) Credit Valley Hospital. Cancer Centre. Toronto: CVH, 2007. <www.cvh.on.ca>.

9) Stevenson, Karen. "History of Long Term Care." ElderWeb. ElderWeb, 1994-2007. <www.elderweb.com>.

10) Farrow, Tye S. "Credit Valley Hospital." Farrow Partnerships Inc. Toronto: Farrow Partnership Inc., 2005. <www.farrowpartnership.com>.

11) Gots, Ronald E. "Sick Building Syndrome: A Diagnosis in Search of a Disease." JurisPro Expert. California: JurisPro Expert Witness Directory <<http://www.jurispro.com/uploadArticles/Gots-Sick%20Building.pdf>>.

12) Greene, Lesley. "Report on Design & Health World Congress." Public Art Online. Montreal: Public Art Online, 2003. <http://www.publicartonline.org.uk/archive/reports/design_health_congress.html>.

13) Hardison Komatsu Ivelich & Tucker. "Presentation Senior Community." HKI&T. California: HKI&T. <<http://www.hkit.com/portfolio/senior/5.html>>.

14) Healthwise. "Retirement or Senior Stage of Life." WebMD. Boise, ID: Healthwise, 1995-2006. <<http://www.webmd.com/healthy-aging/guide/retirement-or-senior-stage-of-life>>.

15) Levy, Chava Willig. "A People's History of the Independent Living Movement." Independent Living Institute. Lawrence, KS: University of Kansas, 1988. <<http://www.independentliving.org>>.

16) NCB. "The Green House Replication Initiative." NCB Capital Impact. Washington DC: NCB, 2006-2007. <www.ncbcapitalimpact.org >.

17) Retirement Residences Real Estate Investment Trust. "Colonel By Retirement Residence." Retirement Residence Real Estate Investment Trust. Mississauga, Ontario: REIT, 2007. <www.retirementresidences.com>.

18) Rohde, Jane and Shoemith, John. "Design for Aging Review Eight Edition: Overview and Current Trends." AIA National Convention and Design Exposition. June 2006. <http://www.aia.org/SiteObjects/files/conted_FR34.pdf>.

19) Seyedeh, Dr. Nahid Angha. "An Introduction to Sufism". International Association of Sufism. California: IAS, 2007. <http://ias.org/articles/Introduction_to_Sufism.html>.

20) Stanwick, Sean. "Credit Valley Measures Superior Performance through Evidence Based Design". Hospital News. Toronto: Farrow Partnership Architects Inc., 2005. <www.hospitalnews.com>.

10.0 Appendix

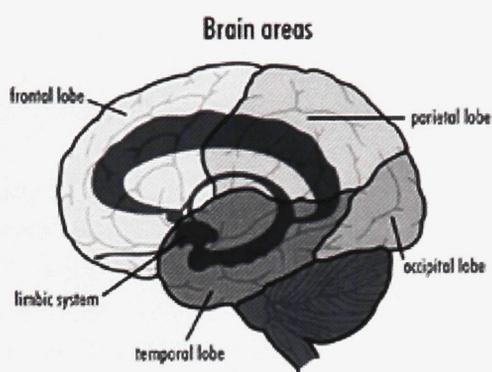
Website Sources: Excerpts and Key Elements

1) Alzheimer Society. Changes in the Brain. Toronto: Alzheimer Society of Canada, 1997-2006. <<http://www.alzheimer.ca>>.

Changes in the Brain

Changes in a person's behaviour can be a sign of damage to certain areas of the brain.

Below are descriptions of what each area of the brain does and how damage to that area can cause specific changes.



Limbic System

- is affected early in Alzheimer's disease
- is involved with memory and emotion
- links the lobes of the brain, enabling them to connect behaviour with memories
- controls emotion and basic needs (such as sleeping and eating)

Changes seen:

- difficulty in finding objects and remembering where they were placed
- suspicious that objects are being stolen
- irritable, depressed or anxious

Hippocampus and Temporal Lobes

- hippocampus: where verbal and visual memory are processed (verbal memories are words -- memories related to what we read or say or hear; visual memory lets us recognize objects, faces and places to guide us around our environment)
- temporal lobes: control new learning and short-term memory

Changes seen:

- lapses in short-term memory
- inability to retain memory of recent past
- living in the present moment
- loss of vocabulary skills
- inability to recognize familiar faces, objects or places

Parietal Lobes

- help us put activities in a sequence (such as putting clothes on in the right order, using tools or performing tasks that require a logical sequence, such as starting and driving a car)
- control our ability to understand spatial information (such as where we are in a specific environment, and where other objects or places are)

Changes seen:

The problems will vary depending on whether the left or right side is affected.

- words mixed up, used incorrectly
- difficulty in understanding what others say
- speaking in general terms rather than specifically
- inability to express thoughts clearly in writing
- difficulty handling bank accounts or paying bills
- getting lost easily
- difficulty putting on clothing
- balance and gait difficulties

Frontal Lobe

- initiates activities, and lets us plan and organize actions
- regulates social judgment and behaviour (knowing what behaviour is appropriate to a situation, interpreting the feelings of other people and monitoring our own actions)

Changes seen:

- appears apathetic, uninterested
- stops hobbies or other activities previously enjoyed
- quickly loses interest in an activity, seems content to sit, does not respond to others
- may withdraw socially
- may be unable to stop an activity, repeating it over and over

Occipital Lobe

- controls vision, and the ability to see and combine colours, shapes, angles and movement into meaningful patterns

Changes seen:

Although the occipital lobe is not usually directly involved in Alzheimer's disease, the surrounding visual areas that allow us to put the elements of vision together can be affected, and this then leads to unusual perceptual difficulties, such as loss of depth vision or inability to see movement.

2) American Association of Retired Persons. "Continuing Care Retirement Communities." AARP. Washington DC: AARP, 1995-2007. <www.aarp.org>.

Continuing Care Retirement Communities (CCRC)

Continuing Care Retirement Communities (CCRCs) are sometimes called life care communities. Entering one is usually a once-in-a-lifetime choice and that's the appeal. Many have large campuses that include separate housing for those who live very independently, assisted living facilities that offer more support, and nursing homes for those needing skilled nursing care. With all on the same grounds, people who are relatively active, as well as those who have serious physical and mental disabilities, all live nearby. Residents then move from one housing choice to another as their needs change.

While usually very expensive, many guarantee lifetime shelter and care with long-term contracts that detail the housing and care obligations of the CCRC as well as its costs.

Living Spaces

A wide variety of independent living units may be available: large and small apartments, cottages, cluster homes, or single-family homes. In addition to usual features, they may include grab bars, a monitored emergency call system and other safety features. Residents of these units are usually active, older people.

Assisted living units may be small studio or one-bedroom apartments with scaled down kitchens. These may have group dining areas and common areas for social and recreational activities. Residents typically need some assistance in daily living activities but also want some independence.

Nursing home accommodations are usually furnished one-room units for two or more persons with an attached bathroom. Residents require skilled nursing care (short term or long term) and may benefit from rehabilitative therapy to maintain or improve their abilities.

The Cost

The costs of living in a CCRC can be quite high and unaffordable to those with low or moderate incomes and assets. Most communities require an entrance fee and monthly payments. These fees can range from lows of \$20,000 to highs of \$400,000. Monthly payments can range from \$200 to \$2,500. In some places, residents own their living space, and in others the space is rented. In some communities, the entrance fee may be partially refundable. Frequently three different fee schedules may be available:

- Extensive contracts, which include unlimited long-term nursing care at little or no increase in the monthly fee.
- Modified contracts that include a specified amount of long-term nursing care. Beyond that specified time, you are responsible for payments.
- Fee-for-service contracts in which you pay full daily rates for long-term nursing care.

Entry Requirements

Some CCRCs are affiliated with a specific ethnic, religious, or fraternal order, and membership may be a requirement. The majority of CCRCs require potential residents to have a medical examination to assess their physical and mental status. Selected pre-existing conditions may cause a CCRC to refuse an applicant. Some CCRCs require residents to have both Medicare Part A and B. Naturally, residents must be able to meet the entrance fee and monthly payments.

3) The American Heritage Dictionary of the English Language; Fourth Edition. "Epiphany." [Bartleby.com](http://www.bartleby.com). Boston: Houghton Mifflin Company, 2000. <<http://www.bartleby.com/61/6/E0180600.html>>.

epiphany

SYLLABICATION: e·piph·a·ny

PRONUNCIATION:  ĭ·p ĭf'ə·nē

NOUN: Inflected forms: pl. e·piph·a·nies
 1. Epiphany a. A Christian feast celebrating the manifestation of the divine nature of Jesus to the Gentiles as represented by the Magi. b. January 6, on which this feast is traditionally observed. 2. A revelatory manifestation of a divine being. 3a. A sudden manifestation of the essence or meaning of something. b. A comprehension or perception of reality by means of a sudden intuitive realization: "I experienced an epiphany, a spiritual flash that would change the way I viewed myself" (Frank Maier).

ETYMOLOGY: Middle English *epiphanie*, from Old French, from Late Latin

epiphania, from Greek *epiphaneia*, manifestation, from *epiphainesthai*, to appear : *epi-*, forth; see *epi-* + *phainein*, *phan-*, to show; see *bhā-*¹ in Appendix I.

OTHER FORMS: ep'i·phan'ic (ĕp'ĭ-fān'ĭk) —ADJECTIVE

4) Barrett, Stephen. "Multiple Chemical Sensitivity: A Spurious Diagnosis." *Quackwatch*. Allentown, PA: Quackwatch, 2000.
<<http://www.quackwatch.org/01QuackeryRelatedTopics/mcs.html>>.

*Multiple Chemical Sensitivity:
A Spurious Diagnosis*

Stephen Barrett, M.D.

The expression "multiple chemical sensitivity" ("MCS") is used to describe people with numerous troubling symptoms attributed to environmental factors. Many such people are seeking special accommodations, applying for disability benefits, and filing lawsuits claiming that exposure to common foods and chemicals has made them ill. Their efforts are supported by a small cadre of physicians who use questionable diagnostic and treatment methods. Critics charge that these approaches are bogus and that MCS is not a valid diagnosis.

What Is MCS?

The concepts underlying MCS were developed by allergist Theron G. Randolph, M.D. (1906-1995), who asserted that patients had become ill from exposures to substances at doses far below the levels normally considered safe. In the 1940s, he declared that allergies cause fatigue, irritability, behavior problems, depression, confusion, and nervous tension in children.

In the 1950s, Randolph suggested that human failure to adapt to modern-day synthetic chemicals had resulted in a new form of sensitivity to these substances. His concern with foods then expanded to encompass a wide range of environmental chemicals. Over the ensuing years, the condition he postulated has been called allergic toxemia, cerebral allergy, chemical sensitivity, ecologic illness, environmental illness (EI), immune system dysregulation, multiple chemical sensitivity, total allergy syndrome, total environmental allergy, total immune disorder syndrome, toxic response syndrome, 20th century disease, universal allergy, and many other names that suggest a variety of causative factors. These labels are also intertwined with Gulf War syndrome, sick building syndrome, toxic carpet syndrome, and other politically controversial diagnoses.

The complaints associated with these labels include depression, irritability, mood swings, inability to concentrate or think clearly, poor memory, fatigue, drowsiness, diarrhea, constipation, dizziness, mental exhaustion (also called "brain fog" or "brain fag"), lightheadedness, sneezing, runny or stuffy nose, wheezing, itching eyes and nose, skin

rashes, headache, chest pain, muscle and joint pain, urinary frequency, pounding heart, muscle incoordination, swelling of various parts of the body, upset stomach, tingling of the fingers and toes, and psychotic experiences associated with schizophrenia. William J. Rea, M.D., who says he has treated more than 20,000 environmentally ill patients, states that they "may manifest any symptom in the textbook of medicine."

MCS proponents suggest that the immune system is like a barrel that continually fills with chemicals until it overflows and symptoms appear. Some also say that a single serious episode of infection, stress, or chemical exposure can trigger "immune system dysregulation." Potential stressors include practically everything that modern humans encounter, such as urban air, diesel exhaust, tobacco smoke, fresh paint or tar, organic solvents and pesticides, certain plastics, newsprint, perfumes and colognes, medications, gas used for cooking and heating, building materials, permanent press and synthetic fabrics, household cleaning products, rubbing alcohol, felt-tip pens, cedar closets, tap water, and even electromagnetic forces.

There is no known mechanism whereby low levels of chemicals or chemicals of widely varied structure can interact adversely with numerous organ systems. Moreover, if the "total body load" concept were valid, the "sum" of small amounts of many unrelated chemicals (as well as infections and psychological stresses) would have the same effects as massive doses of single chemicals -- which is not true. Like drugs, chemicals have specific effects whose development and severity depend on the amounts to which individuals are exposed.

Most physicians who diagnose and treat MCS identify themselves as "clinical ecologists" or "specialists in environmental medicine." About 400 of them belong to the American Academy of Environmental Medicine (AAEM, which Randolph founded in 1965 as the Society for Clinical Ecology, is composed mainly of medical and osteopathic physicians. Clinical ecologists also play a significant role in the American Academy of Otolaryngic Allergy (AAOA), which Randolph helped found in 1941.

Clinical ecology is not a recognized medical specialty. Environmental medicine and occupational medicine are components of the specialty of preventive medicine, but the theories and practices of clinical ecology are not. Critics of clinical ecology charge that: (a) MCS has never been clearly defined, (b) no scientifically plausible mechanism has been proposed for it, (c) no diagnostic tests have been substantiated [1], and (d) not a single case has been scientifically validated. The theories and practices of clinical ecology have been severely criticized by the American Medical Association [2], the American College of Physicians [3], the Canadian Psychiatric Association, the International Society of Regulatory Toxicology and Pharmacology [4], the American Academy of Allergy, Asthma and Immunology [5], the American College of Occupational and Environmental Medicine [6], and several prestigious scientific panels that have investigated them. In 1997, the academy's board of directors reviewed the evidence again and concluded that "a causal connection between environmental chemicals, foods, and/or drugs and the patient's symptoms is speculative and not based on the results of published scientific studies." [7]

5) Baycrest. Memory Loss and Dementia: Types of Memory. Toronto: Baycrest, 2007. <<http://www.baycrest.org>>.

Recent memory

Recent memory is the ability to remember information from minutes, hours, or days ago.

Semantic Memory

Semantic Memory is the accumulation of facts and experience gained over a lifetime.

Prospective Memory

Prospective memory is the ability to remember to do something in the future (e.g., remembering to return someone's phone call, or the time and day of your dentist appointment next week).

Remote Memory

Remote memory is the ability to remember things that happened years ago.

Immediate Memory

Immediate memory is the ability to remember a small amount of information over a few seconds.

6) Beyer, Christian. "Edmund Husserl" Stanford Encyclopedia of Philosophy. California: Stanford University, 2007. <<http://plato.stanford.edu/entries/husserl/>>.

5. *The phenomenological epoché*

An externalist reading (or rational reconstruction) of Husserl's theory of content might, however, be taken to conflict with the methodological constraints posed by the phenomenological *epoché*, which — together with the dynamic method and eidetic reduction — builds the essential core of the transcendental-phenomenological method introduced in *Ideas*.

Husserl developed the method of *epoché* or "bracketing" around 1906. It may be regarded as a radicalization of the methodological constraint, already to be found in *Logical Investigations*, that any phenomenological description proper is to be performed from a *first person* point of view, so as to ensure that the respective item is described *exactly as is experienced, or intended*, by the subject. Now from a first-person point of view, one cannot, of course, decide whether in a case of what one takes to be, say, an act of perception one is currently performing, there actually is an object that one is perceptually confronted with. For instance, it is well possible that one is hallucinating. From a first-person point of view, there is no difference to be made out between the veridical and the non-veridical case — for the simple reason that one cannot at the same time *fall victim to* and *detect* a perceptual error or misrepresentation. In the non-veridical case, too, a transcendent object appears to "constitute itself" in consciousness. It is for such reasons that Husserl demanded that in a phenomenological description proper the existence of the object(s) (if any) satisfying the content of the intentional act described

must be “bracketed”. That is to say, the phenomenological description of a given act and, in particular, the phenomenological specification of its intentional content, must not rely upon the correctness of any *existence assumption* concerning the object(s) (if any) the respective act is about. Thus, the *epoché* has us focus on those aspects of our intentional acts and their contents that do not depend on the existence of a represented object out there in the extra-mental world.

On closer inspection, however, Husserl actually draws upon two different versions of the *epoché* in *Ideas* (as elsewhere), which versions he does not separate as clearly as one might have hoped: the “universal *epoché*” on the one hand, and a much weaker “local *epoché*” (as one could label it) on the other. The former version requires the phenomenologist to put *all* his existence assumptions regarding the external world into brackets *at once*, whereas the weaker version merely requires him to bracket *particular* existence assumptions, depending on the respective “transcendental guide (*Leitfaden*)”, i.e., on the issue to be clarified phenomenologically. This is supposed to enable the phenomenologist to make explicit his *reasons* for the bracketed existence assumptions, or for assumptions based upon them, such as, e.g., the presupposition that a given creature is a subject undergoing such-an-such an experience.

7) Carter, Sheryl. “Biography.” Oliver Sacks. New York, NY: Oliver Sacks, 2004. paragraph 4. <www.oliversacks.com>.

As a physician and a writer, Oliver Sacks is concerned above all with the ways in which individuals survive and adapt to different neurological diseases and conditions, and what this experience can tell us about the human brain and mind. His books exploring these themes have been bestsellers around the world and are used widely in universities in courses on neuroscience, writing, ethics, philosophy and sociology. They have served as the inspiration for artists working in forms as varied as poetry, essay, documentary, drama, painting, dance, cinema and fiction.

8) Credit Valley Hospital. Cancer Centre. Toronto: CVH, 2007. <www.cvh.on.ca>.

In June 2005 The Credit Valley Hospital officially opened its \$134 million expansion that includes The Carlo Fidani Peel Regional Cancer Centre. The cancer centre covers about one-third of the space of the new facility, the other two thirds devoted to ambulatory care clinics.

The Carlo Fidani Peel Regional Cancer Centre delivered world-class care in the form of both chemotherapy and radiation therapy. The latter treatment had previously required patients to travel to downtown Toronto or Hamilton. Beyond the physical distance, patients were also less likely to be able to co-ordinate their cancer treatments. Now, more patients than ever before receive care that involves direct consultation and co-ordination between their personal oncologist and professionals at the cancer centre.

The regional cancer centre provides radiation treatment using three linear accelerator machines. A fourth linac will begin operating in the Spring 2007. There is room to expand to six treatment units in the future.

The radiation treatment rooms have no doors, but rather right angle corridors through which to enter – removing the angst of having large vault-like doors close behind the patient. These specially-designed passages made of highly-dense concrete lead into the modern, accommodating treatment rooms.

Natural light is a crucial element in providing an environment that encourages hope and healing, as well as a sense of warmth to those who need it most. This light streams through all areas of this new four-storey building. Other natural complements such as running water, tropical fish, and live foliage, will be prominent throughout the hospital.

9) Stevenson, Karen. "History of Long Term Care." ElderWeb. ElderWeb, 1994-2007. <www.elderweb.com>.

1800-1899

Thu, 03/23/2006 - 9:20am — Karen Stevenson

Summary: Families disperse, Poorhouse system comes under scrutiny, Old-age homes are established, Hospitals and home health emerge, Early retirement communities appear, Some elderly move to insane asylums, State and employer pension and welfare systems develop.

Families Disperse and Children Move Away

The country grew quickly and by the 19th century land in the settled areas was no longer cheap. There was a limit to how many times a father could subdivide his land among his children to give them a plot of their own, so more and more children had to leave the family home in order to make a living. Some of them went to the cities to find work, and others moved west where cheap land was available.

In the early 1800's, much of the travel to the west was on trails like the "Cumberland Road," later called the "National Road," which funneled early pioneers into the midwest. In the early- to mid-1800's, pioneers began to travel farther west on the Oregon Trail, the Santa Fe Trail, and other major wagon train routes. By the middle of the century, the railroads were beginning to make travel easier, and in 1869 the transcontinental railroad was completed, making it possible to ride coast to coast in comparative comfort on a train.

1940-1949

Thu, 03/23/2006 - 9:20am — Karen Stevenson

Summary: World War II, OAA utilization and costs explode, Benefits change family living arrangements, National health insurance proposed but defeated, Hill-Burton creates healthcare licensing systems, Various buildings converted to nursing homes.

World War II

During World War II many seniors came out of retirement to help with the war effort. Their employment income probably kept many of them off the welfare rolls during the war, but they had to retire once again when the servicemen returned home and needed jobs. The war also added to the size of the disabled population who needed long term care, and created many new widows and orphans who needed financial assistance. In 1939, the Social Security Act had been expanded to include survivors and dependents benefits, and the war greatly increased the number of people covered under the system. After the war, the Veterans Administration added new benefits for newly-disabled veterans or surviving spouses.

The size of the elderly and disabled population was growing, and many of them were now eligible for government payments of one kind or another, including veterans benefits, old-age assistance, Social Security, and unemployment assistance. Many of those payments could be used to pay for nursing home care, further encouraging the development of care facilities.

1950-1959

Thu, 03/23/2006 - 9:20am — Karen Stevenson

Summary: Government has become the primary payor for nursing home care, Financing is made available for nursing home construction, There is a "boom" in for-profit nursing home construction, The quality of nursing home care becomes a national concern.

Home Care Drops in Popularity

Home care had never really received much consideration as an alternative to institutionalization. Private duty nurses had provided for wealthier individuals in their homes since the late 1800's, but served only those who could afford the cost of highly individual in-home care. The visiting nurse associations and public health nurses who were available to the poor had been focusing their efforts not on care for the elderly but on health education, disease prevention, and pregnancy. By the 1940's, infant mortality rates had dropped dramatically, hospital care had improved, and patients began to look to medical facilities as the preferred sites for receiving medical care and education. As the cost of salaries and medical technology increased, it was also more cost-effective to ask patients to come to the medical professionals rather than the other way around. Since that was where the jobs were, most nurses began working for hospitals or physicians. By 1952, Metropolitan Life discontinued the visiting nurse program they launched in 1909 and the home care industry floundered with little funding and no clear sense of direction.

10) Farrow, Tye S. "Credit Valley Hospital." Farrow Partnerships Inc. Toronto: Farrow Partnership Inc., 2005. <www.farrowpartnership.com>.

The Carlo Fidani Peel Regional Cancer Centre and Ambulatory Centre

Credit Valley Hospital, Mississauga, Ontario

The Credit Valley Hospital's 320,000 square foot Cancer Care and Ambulatory Care facility includes Complex Continuing Care, Rehabilitation, Maternal Child Care, Laboratory Services and Emergency Room renovations. These recently completed renovations and additions are phase one of a three-phase \$349 million dollar project designed to serve the future health care needs of Mississauga.

The dramatic spaces and warm materials of the new facility promote humanistic healing practices among patients and staff.

Award: 2005 Wood Design Award (Large Institutional), Wood Works / Canadian Wood Council Canada.

11) Gots, Ronald E. "Sick Building Syndrome: A Diagnosis in Search of a Disease." JurisPro Expert. California: JurisPro Expert Witness Directory <<http://www.jurispro.com/uploadArticles/Gots-Sick%20Building.pdf>>.

What Is Sick Building Syndrome?

In the scientific literature, health conditions associated with buildings are commonly categorized as: (a) building-related diseases, (b) tight building syndrome or sick building syndrome, and (c) building-associated symptoms. The expressions "tight building syndrome," "sick building syndrome," and "building-associated symptoms" may soon be replaced by a new term, however: "building-related occupant complaint syndrome," or "BROCS."

The category "building-related diseases" comprises disorders due to specific, identifiable contaminants of indoor air. As noted above, a specific bacterium causes Legionnaires' disease. Certain other organisms that live in heating and air-conditioning systems—fungi, for example—can cause various disorders, ranging from mild, hayfever-like allergies to asthma and hypersensitivity pneumonia. Building ventilation systems can also spread cold and flu viruses; thus, even the common cold can be a building-related disease. But to categorize a disorder correctly as a building-related disease, one must have clear and convincing evidence that something in the building caused the disorder. And, preferably, one should identify the agent. Generally, building-related diseases have clear-cut clinical end points: influenza, lab-test-confirmed asthma, or death, for example. In contrast, the expressions "sick building syndrome" and "tight building syndrome" have been applied to situations in which workers reported many and varied symptoms. The sheer range of potential causes of the alleged symptoms renders both expressions misleadingly narrow.

These expressions were not in use in the 1960s. It has been argued, perhaps rightly, that the energy-efficient buildings constructed in the U.S. after the early 1970s substantially decrease the migration to the outdoors of contaminants—and thus increase their indoor accumulation. But while it is clearly true that modern buildings are more airtight than their predecessors, it is not clear whether today's indoor air is worse than pre-1970 indoor air. In 1965, for example, there were vastly more smokers in the U.S. than there are today. Then, office-building conference rooms were filled with smoke—containing hundreds of irritant chemicals—from cigarettes and cigars. Today, in contrast, chemicals present in parts per billion of indoor air—chemicals unseen and often unsmelled—are the focus of intense concern.

Because "sick building syndrome" (SBS) is associated with nonspecific symptoms and is identified on the basis of subjective responses to questions, it is difficult to determine whether air contaminants are more causative than psychological factors, or vice versa. Moreover, as reports of "indoor air problems" multiply, reporting biases will intensify. There have been few attempts to vary indoor air covertly and then to question occupants about symptoms—and these attempts have yielded mixed findings.

The prevalence of reports of "sick building syndrome" does not in itself establish that poor air quality is the cause. SBS could, for example, be due to a high outdoor pollen count, viruses responsible for the common cold, or workforce discontent. Moreover, the symptoms associated with SBS—because they are nonspecific and typically differ from person to person—do not establish that the cause of SBS is building-related.

12) Greene, Lesley. "Report on Design & Health World Congress." Public Art Online. Montreal: Public Art Online, 2003.
<http://www.publicartonline.org.uk/archive/reports/design_health_congress.html>.

3. *Sources of well being* was dealt with in a variety of ways. Keeping the patients' mind active and encouraging lateral thinking on the part of the commissioning authorities to new design ideas was the focus of many speakers' research. Some used research from the business sector and workplace to illustrate the need for more creative thinking in hospital design; for example the company Skandia was quoted as they found that poor ideas emerged from formal Boardroom meetings so they closed their Board rooms and enlarged their kitchen and cafeteria areas where discussion was not only freer but vertically possible, dissolving company hierarchies; new ideas in hospital design include building fitness suites and creating better access to information through integrating libraries in hospitals i.e. integrating preventative medicine and encouraging informed and participative patients.

Others had worked specifically testing the impact of the arts on stress reduction. Leif Edvinson spoke about dancing having a huge impact on positive brain waves, creating a sort of 'brain gym'. Ann Langius, a nurse from Sweden presented a research paper on a study that showed patients exposed to music in and after surgery experiencing less pain and therefore requiring less morphine. Her message was clear that music is an inexpensive and non-invasive tool supporting surgery. She explained that theatre staff

also performed surgery more effectively when music was played. There seemed to be a connection between musical rhythm and breathing which affected the alpha brain waves inducing relaxation. Susan Wesley's impressive "lullaby research" with children with behavioural difficulties demonstrated the significant impact of music on reduction of aggression. This research, which began in 1999, continues. An Australian study showed how painting and drawing had positive effects on patients with dementia. Others (Michael Moxam) talked of the need for textures in hospital & the use of natural wood and stone rather than plastics, and the use of colours in appropriate ways (there was a study on colour perception and aging (Helle Wijk) and another on the positive impact of colour on way finding (Michael Moxam). The use of gardens featured in many presentations. The Peel Centre Credit Valley Hospital outside Toronto emulated natural woodland space by the design of an atrium, which was Gaudi-like in its use of tree shaped support structures in natural wood.

All were concerned that patients needed access to natural light and one presentation (Philip Mead USA) included an engaging run through the history of light and health from the Greeks onward.

Some expressed concern about the availability of fresh food in hospitals. Rothman's work in the new teaching hospital in Mexico City stressed access to fresh, and, importantly, culturally appropriate food as an ethical issue in healthcare.

One small aspect of a larger environmental study by Michael Moxam showed that art had a more general importance for staff morale, than any perceived effect on patient recovery rates.

13) Hardison Komatsu Ivelich & Tucker. "Presentation Senior Community." HKI&T. California: HKI&T. <<http://www.hkit.com/portfolio/senior/5.html>>.

The Presentation Senior Community project is an excellent example of providing senior services that are both available to the public and to the residents. The project includes an Adult Day Health Center (ADHC), physician's exam rooms, a variety of social services such as counseling, and a multi-purpose facility for community gatherings. A unique feature of the Presentation project is the EXIT Theatre, occupying a 2,000 SF commercial space at the ground level of the project. The theatre was actually conceived by the Developer in response to the City's desire to enliven the project at the street level in the evening, while also providing cultural amenities for the senior residents.

14) Healthwise. "Retirement or Senior Stage of Life." WebMD. Boise, ID: Healthwise, 1995-2006. <<http://www.webmd.com/healthy-aging/guide/retirement-or-senior-stage-of-life>>.

Retirement or Senior Stage of Life

During the retirement phase of the family life cycle, many changes occur in your life. Welcoming new family members or seeing others leave your family is often a large part of this stage as your children marry or divorce or you become a grandparent.

This stage can be a great adventure where you are free from the responsibilities of raising your children and can simply enjoy the fruits of your life's work. Challenges you may face include being a support to other family members, even as you are still exploring your own interests and activities or focusing on maintaining your marriage. Many people are caring for elderly parents at this time. You may feel challenged by their emotional, financial, and physical needs while trying to help them retain their independence.

You may experience declining physical and mental abilities or changes in your financial or social status. Sometimes, you must deal with the death of other family members, including your spouse. The quality of your life at this stage depends on how well you adjusted to the changes in earlier stages. It often also depends on how well you have cared for your own health up to this point. Normal aging will affect your body, resulting in loss of bone density, wrinkles, aches, and pains. The chances of having a mental or chronic physical illness does increase with age; however, aging does not mean you will automatically experience poor health.

Retirement can be a fulfilling and happy time. Becoming a grandparent can bring you great joy without the responsibility of raising a child. Those who are without adequate support systems or not well off financially, however, may have a more difficult time in this phase of life.

Specific goals to attain at this final stage of your family life cycle include:

- Maintaining your own interests and physical functioning, along with those of your spouse, as your body ages.
- Exploring new family and social roles.
- Providing emotional support for your adult children and extended family members.
- Making room in the family system for the wisdom and experience of older adults.
- Providing support for the older generation without overfunctioning for them.
- Dealing with the loss of a spouse, siblings, and other peers, and preparing for your own death.
- Reviewing your life and reflecting on all you have learned and experienced during your life cycle.

15) Levy, Chava Willig. "A People's History of the Independent Living Movement." Independent Living Institute. Lawrence, KS: University of Kansas, 1988.
<<http://www.independentliving.org>>.

It's hard to fix an exact date to the birth of the IL movement. Many say the movement began on a day in 1962 when a man named Ed Roberts enrolled at the University of California at Berkeley. For reasons that will soon become obvious, Roberts is universally acknowledged as the father of the IL movement. Some are quick to point out, however, that if Roberts is the father of the movement, Mary Switzer and Gini Laurie are its grandmothers.

Mary Switzer: Pioneering Government Leadership

Mary Switzer began a distinguished career in federal civil service after graduating from Radcliffe in 1921. Disability awareness did not play a significant role in her early life. However, soon after arriving in Washington, she met Tracy Copp, an early advocate for people with disabilities. Their friendship prompted Switzer to say, "I'd like to get into this work if the chance ever comes"

(Current Biography, January 1962, p.42).

That chance did not materialize for quite some time. The first opportunity to become remotely involved in rehabilitation arose in 1934 when Switzer was appointed assistant to the Assistant Secretary of the Treasury in charge of the Public Health Service. Her expertise in health and welfare concerns grew during World War II when she worked closely with medical professionals.

Perhaps more than others, those in government service know that all things come to those who wait. In 1950, over 20 years after her first encounter with Tracy Copp, Switzer was appointed director of the Office of Vocational Rehabilitation (OVR). Established in 1920, OVR's results were modest in its first quarter century; on average, it rehabilitated 10,000 persons with disabilities a year. And its programs were limited to clients most likely to succeed; those with severe disabilities usually were denied services.

Switzer was the pioneer who saw injustice where others saw the status quo. Upon taking office, she commissioned a study that resulted in plans to expand the national rehabilitation program. The result: the unprecedented goal to rehabilitate 250,000 citizens a year.

Switzer's philosophy shaped the Vocational Rehabilitation Act of 1954, which poured funds into research and direct services. Under her leadership, those services began to reach people with severe physical and mental disabilities, once considered "infeasible for rehabilitation." What's more, Switzer refused to define the goal of rehabilitation as busywork or menial labor. She insisted that work meant "bringing the person to the highest and most productive place he can achieve" (Current Biography, January 1962, p.43).

Accordingly, the Vocational Rehabilitation Act of 1954 stated that disabled persons were not considered rehabilitated until they were employed to their own satisfaction, not just their employers'. That policy was revolutionary, empowering people with disabilities to be partners in the decision making affecting their lives.

In 1967, Switzer became commissioner of vocational rehabilitation. When she retired in 1970, then the highest ranking woman in the federal government, she had taught millions that the community has a "moral responsibility to ensure that the opportunities our country gives generally to all of us be available, too, for those among us whose lives would otherwise be limited by physical disability" (Current Biography, January 1962, p.44).

Gini Laurie: Powerful Grassroots Leadership

For Gini Laurie, unlike Switzer, disability was commonplace from the moment her life began. In 1913, one year before she was born, four of her siblings contracted polio. Two sisters died within months; one brother died of pneumonia at 21, years before iron lungs were available to combat pulmonary weakness.

Laurie remembers 1949 as the year polio began hitting adults. When the Red Cross called for volunteers to apply hot packs to patients in iron lungs, she offered her services. She got to know many polio survivors who expected, as their relatives and doctors predicted, to spend the rest of their lives in the hospital. There, it was assumed, the March of Dimes would pay for their attendant care. That assumption was only partly correct. There were 400 iron lung users nationwide, and the March of Dimes could not afford to serve them if they remained in dispersed locations. In 1950, it established 16 centers to serve 242 of these hard-hit polio survivors.

The remaining 158 lived at Rancho Los Amigos Medical Center in Southern California. Pressed for funds, the March of Dimes turned their care over to Los Angeles County. Then in 1953, the County conducted an attendant care survey. It learned that the 158 iron lung users could get attendant care and equipment maintenance at home for \$10 a day; it cost the County \$37 a day to provide identical services in the hospital. "This discovery," says Laurie, "was the start of the independent living movement." (See Kailes (1985) for a slightly different account of this turning point.)

A People's History of the Independent Living Movement

Ultimately, until 1959 when they could no longer fund attendant care, local March of Dimes centers also gave monthly stipends of \$300 to polio survivors, enabling them to live outside the hospital. Meanwhile, the Salk vaccine was perfected in 1955. Many forgot about those who had contracted polio. But Laurie, married and living in Cleveland, had maintained the link she had established as a child with this population. She determined that polio survivors needed two things: people and information. She then launched, "just for fun," two projects: a newsletter (written in her dining room) and a lift-equipped swimming pool (built in her back yard). Both provided opportunities for networking.

"Someone would ask, 'How will I ever get an attendant!?' " Laurie remembers. "And the answers would come pouring in, either around my swimming pool or in our newsletter: Go to a mental hospital to find a helper who needs help too; move into a duplex house

and offer free room and board in exchange for assistance; find an illegal alien; start a letter-writing campaign to your congressman."

What started as a home-grown newsletter became the Rehabilitation Gazette or, as Laurie calls it, "independent living by mail." The Gazette's writers were its readers, sharing tips with an audience that would soon become international. A subscriber in Michigan could confront the local Office of Vocational Rehabilitation (OVR) and say, "I read that so-and-so in Texas was sent for computer training. Why not me?" Laurie sums it up this way: "The Rehabilitation Gazette distributed knowledge, and knowledge is power."

One of the Rehabilitation Gazette's earliest subscribers was a young Californian named Ed Roberts. Like Laurie, he contended that knowledge led to power. He became one of the most powerful forces in the IL movement. But in 1953, at the age of 14, power was a commodity Roberts never expected to possess.

The Independent Living Center as a Social and Economic Model

This victory enabled ILCs to grow in number and strength. While innovation and expansion monies available under the Rehabilitation Act of 1973 supported this expansion, the Rehabilitation Act of 1978 caused ILCs to proliferate. Considered "the single most far-reaching piece of legislation ever offered to the disabled community" (Varela, 1983, p.45), it ensured that people with disabilities would be key players in the establishment and provision of IL services. Under Title VII of the new act, a national independent living program finally became law. It mandated that citizens with disabilities "be substantially involved in policy direction and management" of ILCs; it also charged that those citizens be among those staffing ILCs (Laurie, 1979). Title VII also extended program assistance to people whose severe disabilities might have made them ineligible for traditional vocational rehabilitation services (Varela, 1983).

16) NCB. "The Green House Replication Initiative." NCB Capital Impact. Washington DC: NCB, 2006-2007. <www.ncbcapitalimpact.org>.

Mennonite Manor was founded in 1973 and is affiliated with nine area Mennonite Congregations. Located in South Hutchinson, Kansas, its 170-acre campus offers the convenience of city living with the serenity of the country. Mennonite Manor is home to over 270 elders in a variety of living options, and is a leader in innovative senior care, offering the first Eden Alternative facility in Kansas. Mennonite Manor plans to replace the current 116-bed Medicare/Medicaid Certified Healthcare Facilities with Green House® homes over the next several years. The first phase is complete, creating 2 operating Green House® homes.

17) Retirement Residences Real Estate Investment Trust. "Colonel By Retirement Residence." Retirement Residence Real Estate Investment Trust. Mississauga, Ontario: REIT, 2007. <www.retirementresidences.com>.

The Colonel By Retirement Residence, a 3-storey luxurious stone building, is situated near the Rideau Canal in a beautiful residential neighbourhood. We offer gracious retirement living in a comfortable, safe and secure environment. The building and suites are wheelchair and walker accessible and the suites include one room and two room layouts.

The second floor is devoted to assisted living, which also includes a secured unit for our residents with Alzheimer's/Dementia. Our philosophy of "Aging in Place" enables residents to remain in familiar surroundings even when their health care needs change.

The Colonel By abounds with on-site services enabling you to enjoy activities planned by our full-time activity co-ordinator, complete hairdressing and barber services at our salon, and services in our non-denominational chapel.

Our scenic Lookout Lounge has a beautiful view of the Canal and is used for afternoon tea and cocktails, bridge and movie night. Other common areas include an activity room, an elegant library, an old-fashioned ice cream parlour, a bright sunroom, and a spacious courtyard. Delicious meals prepared by our chef are served in our two full-service dining rooms. As well, a private dining room can be reserved for special gatherings with family or friends.

18) Rohde, Jane and Shoesmith, John. "Design for Aging Review Eight Edition: Overview and Current Trends." AIA National Convention and Design Exposition. June 2006. <http://www.aia.org/SiteObjects/files/conted_FR34.pdf>.

This is a superb example of an urban senior living residence where community comes together. There is true integration of community services, the community and the seniors who live in the building. All of this is done with a clear urban design language sensitive to its neighbors...

Evident Trends: Acceptance of wellness as a principle around which community is fostered.

Desired Program & Process

- full utilization of exterior spaces
- flexibility for future/market change
- evidence based design
- integrated community based service projects or components
- promotion of "aging in place"

19) Seyedeh, Dr. Nahid Angha. "An Introduction to Sufism". International Association of Sufism. California: IAS, 2007. <http://ias.org/articles/Introduction_to_Sufism.html>.

An Introduction to Sufism

by Seyedeh Dr. Nahid Angha

The following article written by Seyedeh Dr. Nahid Angha is taken from the journal Sufism: An Inquiry.

The pursuit of truth is the quest for a particular goal, a quest pursued no matter how difficult the path -- and for the most important truths, the way may be long and arduous indeed. Tasawouf, or Sufism, is the esoteric school of Islam, founded on the pursuit of spiritual truth as a definite goal to attain: the truth of understanding reality as it truly is, as knowledge, and so achieving ma'arefat. In Tasawouf when we speak of understanding or cognition we refer to that perfect self-understanding that leads to the understanding of the Divine. This very logical principle is based on a typically succinct saying of Prophet Mohammed: "Whoever knows oneself, knows one's Lord." The origins of Tasawouf can be traced to the heart of Islam in the time of the Prophet, whose teachings attracted a group of scholars who came to be called "ahle suffice", the People of Suffe, from their practice of sitting at the platform of the mosque of the Prophet in Medina. There they engaged in discussions concerning the reality of Being, and in search of the inner path they devoted themselves to spiritual purification and meditation.

The ahle suffice believed that it was the unique human right and privilege to be able to find the way towards understanding the reality of the Divine. As the cognitive tools of ordinary mental logic are limited in their ability to comprehend such a great and all-embracing subject, disputation and all discussions based on language alone cannot open any door to understanding such reality. Instead, such a path of understanding necessitates spiritual striving, the understanding and the knowledge of the heart, in its quest to realize the existence of the Divine. Such an approach separates Sufis from philosophers, and indeed from any other group of scholars whose knowledge is founded upon traditions, words, assumptions, and the imagination instead of the actual and direct understanding of all that exists. Thus the path of Sufis, of cognizant Moslems, was separate from that of the traditional understanding. They became the people of the tarigh, or the way; their particular goal was to understand and introduce the esoteric aspect of Islam, as opposed to the exoteric public elements of this universal religion.

The principles of Sufism are all based upon the rules and teachings of the Koran and the instructions of the Prophet. To a Sufi there is no gulf of separation between all of Being, the Creator, and His creations. That the multitude cannot perceive this fundamental unity is the result of the impurity of nafs and the limitations of the material and physical tools that mankind possesses. If man were free from the limitations of matter, then he would surely witness this immense and eternal unity of Being. But there is a chance for mankind to ascend to such a level of understanding, a pathway that can be followed through purification and meditation to the realization of its achievement. When one's heart is purified, the manifestations of the Divine is reflected in the mirror of the heart. Only then may man ascend from the level of his animal nature to the level of the true human being.

Since all the principles that underlie the instructions of Sufis are based on the Koran, it is impossible to relate Sufism to any religion outside of Islam. Yet the search for true understanding and abstract knowledge of reality is a universal quest. As long as humanity

endures, so too will the search for such understanding continue. History shows us that every nation and religion has its own way of expressing the universal spiritual quest.

20) Stanwick, Sean. "Credit Valley Measures Superior Performance through Evidence Based Design". Hospital News. Toronto: Farrow Partnership Architects Inc., 2005. <www.hospitalnews.com>.

Credit Valley measures superior performance through evidence based design

By Sean Stanwick

Implemented for the first time in a Canadian hospital, a research study will quantifiably examine the effects of design on staff and client efficiency, and formally document measured correlations to determine the positive, or negative impacts on patient recovery, satisfaction and staff movements.

This groundbreaking study will be conducted by Farrow Partnership Architects in partnership with the Credit Valley Hospital, Cancer Care Ontario and WIN Workflow Integrity Network / Queens University. This aspect of patient care will be funded through an Ontario Health Association Change Foundation research grant measuring best performance through metrics of Evidence Based Design (EBD). The Change Foundation identifies major change initiatives and funds frontline innovation and research.

The \$100,000 grant will be matched by in-kind contributions, for a total research pool of \$200,000, and will extend over a two-year period beginning in January 2005 at the new Carlo Fidani Peel Regional Cancer Center at the Credit Valley Hospital in Mississauga Ontario. Designed by Farrow Partnership Architects, the \$85 million dollar ambulatory and cancer care centre is to open in May 2005.

"While great strides have been made by architects and health-care practitioners," says Tye Farrow, Partner in Charge of Design for Farrow Partnership, "there is limited evidence, particularly in Canada, to show that such exemplary facilities were actually superior at improving outcomes, quality of experience, and bottom-line financials."

"What makes this particular research project unique" he adds, "is that we now have within our resources proven empirical methods for measuring and improving both patient outcomes and providing efficient, safer and less-wasteful healing environments within the design process."

Similar to 'evidence-based medicine', EBD is research-informed and employs a series of design metrics (movement patterns, number of steps, travel times, service interruptions, etc) to measure a variety of outcomes. Data collection will begin with a baseline prior to the occupancy and six months post-occupancy, allowing staff to gain a level of comfort and routine. In order to collect and quantify the data an automated function analysis tool, situation modeling and patient and staff surveys will be conducted. To organize the outcomes, a balanced scorecard approach will be adopted.

As the information gathered can potentially influence design at all levels of complexity from building layout to millwork to hospital performance, when the outcomes lead to evidence supported determinations, the team will investigate strategies to improve performance and overall value.

A consistent target group of nursing staff and breast cancer patients receiving adjuvant therapy was selected. Breast cancer patients were chosen because they will represent one-third of all outpatient visits in the new centre, and also that cancer incidence is anticipated to increase by more than 70% over the next 10 years, representing the largest incremental growth in the province.

"While there is a real need to accommodate increased patient volumes through straight operational improvements," says Farrow, "we also recognize that space and design, when well thought out, can increase functional, financial and operational performance."

The statistical evidence on EBD coming from the United States and Europe shows that better designed hospitals and the one-time costs of designing and building optimal facilities are repaid directly through operational efficiencies. Illness is a costly condition, whereas wellness pays direct and indirect dividends both for patients and caregivers.

In the broad picture, hospital environments can benefit from EBD in three key ways by:

- Improving patient safety;
- Functioning as a compliment to the user group process;
- Eliminating environmental stressors.

Specifically, EBD is particularly helpful to hospital stakeholders including caregivers, administrators and investors. In most cases, users are aware that their physical environment and service interruptions hinder their ability to perform to their peak potential. For example, nurses spend almost 28.9% of their day walking, second only to patient care activities at 56.9% (Burgio, Engel, Hawkins, McCorick & Scheve, 1990). While the user-group process typically identifies a problem, EBD allows the design team to accurately identify the cause and propose evidence-supported solutions.

"EBD starts with values- driven hospital leadership" says Farrow, "and continues with the lessons learned which will be particularly relevant to organizations striving for best performance and excellence in client and patient-centered care. "As the physical environment is an important element in earning employee commitment to an organization, EBD is therefore a means for measuring the effectiveness of the building to successfully achieve those goals.

Too often, the work of healthcare architects has relied solely on intuitive decision-making and old habits, when in fact it must embrace a rigorous process of scientific inquiry that informs and tests. EBD is therefore a progressive step forward signaling the dawn of a promising and hopeful era in Ontario's health care community.

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