

# AGEING LANDSCAPES: THE POTENTIAL OF POST-OCCUPANCY REVIEWS

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Even the best designed (and constructed) housing facilities for older people – from retirement lifestyle communities to nursing homes – do not always fulfil their promise. Sometimes designers misjudged residents' and staff needs and capacities; sometimes their spaces just don't work for a purpose rightly judged. And for their part, residents and staff – being the contrary souls all people are – will sometimes subvert a perfectly fine space for another use or fail to use it at all.

Post-occupancy evaluations are a tool for observing how the use of spaces/places in senior residential facilities match, or don't match, the intent of the design.

Indeed, until last week I would have said: "post-occupancy evaluations are exactly what they sound like". Some time after a facility [a retirement village, hostel, low care or high care aged care facility, dementia unit ... whatever] is built or substantially overhauled – perhaps six months, a year, three years later – an independent team goes in to see whether the way the facility is being used matches the way the architects and designers intended or imagined it would be used.

However, last week I was talking about this with a friend who simply assumed that *post*-occupancy meant after the person had died!! And it is true, when you think about it, that *post*-occupancy evaluation is a strange term. While it makes sense at one level (a feature of the contractual handover of a new or refurbished building to the occupiers), it fails at another (common English usage). So perhaps they are more correctly labelled *occupancy* evaluations.

I should make clear at the beginning, rather than sneaking up to it at the conclusion, my motive for this presentation on post-occupancy evaluations. I, and my two colleagues Anne Butorac and Ann Zubrick, would like to build a coalition of people interested in working with us to establish a climate in which post-occupancy evaluations of senior living facilities in Australia are routinely conducted.

It needs to be emphasised that these are NOT inspections, either for compliance with building codes or for aged care accreditation. They are best undertaken as a cooperative exercise where the evaluation team and the facility staff share a common purpose: to improve environments expressly built for older (and elderly) people. Post-occupancy evaluation teams are necessarily multi-disciplinary. The array of professionals who work to make these facilities work for residents are themselves diverse, to say nothing of the clients, families and visitors using the facility. Multidisciplinary teams work because team members will be alert for different features and, indeed, see them through different lenses.

**No one doubts that our physical environment has a tremendous influence on us.** Winston Churchill once said. **"We shape our buildings and afterwards our buildings shape us":**

1. shaping momentary moods – there's an interesting collection of articles about improving architecture for older people and people with disabilities from Royal Australian Institute of Architects simply titled *Beyond Beige*<sup>1</sup>...
2. servicing as a therapeutic resource - this example comes from Anderzhon *et al*<sup>2</sup>: Woodside Place of Oakmont, a suburb of Pittsburgh, is part of a large health campus including a 200 bed Skilled

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<sup>1</sup> Garlick, B., Jones, D., and Luscombe, G. 2008, *Beyond beige: improving architecture for older people and people with disabilities*, TAKE 6, The Royal Australian Institute of Architects, Manuka, ACT.

Nursing Facility operated by Presbyterian SeniorCare. Woodside Place itself is a facility specialising in Alzheimer and other dementia care. It was built in 1991, so it was a leader in moving from a hospital orientation to a physical layout specifically designed to have a positive impact on lives of residents. It set out to accomplish this in a range of ways:

- (i) by challenging the accepted notion that windows are bad for people with Alzheimer's because in the evening the sight of their own reflections makes them nervous and because a view of the outside increases residents' agitation since they cannot go out. The architects of Woodside Place built walls of windows to let light in and connect residents with the outside. They countered the reflection problem come evening by having staff pull window shades. And countered the agitation that comes from being kept inside by allowing the residents to go into the garden almost whenever they want.

And they do. There are specific group activities which draw residents into the outdoor spaces but they can garden in the raised planter boxes and interact with the gardening staff as they please. The garden is used for walking, too: the wandering path allows residents to interact with staff and residents involved in other activities. Each 'house' has its own garden directly accessible from the home's dining room. Initially each garden had its own gate and fence but the gates were removed. Even in less than ideal weather, the garden gets plenty of use.

There has been a demonstrable improvement in residents' behaviour. The garden generates a sense of calm and of purposeful activity among residents. It's also a genuinely lovely space for families to visit.

- (ii) a simple way the built environment at Woodside Place can act as a therapeutic resource: there are no doors on the cabinets in common room areas so residents can see their contents and are encouraged to rummage. Care stations are built in the kitchen area and residents help folding towels – they can help with serving dessert, too.
- (iii) with all this independent activity amongst the Woodside Place residents, it comes as a bit of a shock to hear that some 60-70% of them are incontinent, but staff are able to manage them to a point of continence – a strategy that is greatly supported by the availability of 40 toilets (for 36 residents).

3. the built environment can also be a constraint making some activities impossible: if you find yourself confined to a wheelchair and the bathroom doors aren't wide enough to accommodate the wheelchair, you relocate or pay for renovations.

The cascade of things that can go awry if one doesn't take into account the physical environment and ageing is startling. This is another example from Anderzhon *et al*: the Hallmark, an up-market high-rise apartment building in the Lincoln Park area of Chicago was built in 1990 for (wealthy) older people. It has spectacular views of Lake Michigan. This is an area with lots of up-market high-rise apartments so the Hallmark's 37 floors are hardly out of place. But it was designed as a community for independent retirement living: the average age at the time the project was completed was 71.

What the designers failed to appreciate was that once ensconced in their apartments with their magnificent views, the residents would never want to leave, however their frailty increased. So 15 years later the average age of the residents is 85. One result: the doors to the lifts have had to be set on a longer time sequence to accommodate individuals who walk more slowly or use walking frames or wheelchairs. This means that the flow of lifts has slowed significantly and wait times for the residents become almost unbearable. Exacerbated further, of course, by the need to accommodate walkers and wheelchairs and thus fewer people with each lift trip.

That's not a particularly exalted example of the effects of the built environment on quality of life, but you get the point.

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<sup>2</sup> Anderzhon, J., Fraley, I.L., and Green, M. 2007, *Design for Aging Post-Occupancy Evaluations*, Wiley, American Institute of Architects – this is a collection of reports of 21 post-occupancy evaluations of senior living facilities which had been featured in the American Institute of Architecture *Design for Aging Review* (among other sources).

**That's why we're interested in post-occupancy evaluations:** to see if through them we can learn from the past in order to specify and design these facilities in ways that bring out the best in residents, staff and visitors alike.

Post-occupancy evaluations are a relatively new development in general, not just in environments for ageing. The history, as I understand it, is that these evaluations were instigated by Facility Managers who got a bit grumpy about buildings that didn't work and architects who didn't seem to care. Frank Lloyd Wright is reportedly the epitome of architects who don't quite care about how their gorgeous edifices work. In his freshly minted buildings – in *all* of them – the roof leaked. Understandably people complained to him about this demonstrable failing: that the roof leaks. His answer: "that's how you can tell it's a roof"!

But apparently the reality was (and to a large extent still is) that architects rarely go back to see how people are using their buildings. Architects have their own theories about this failure to revisit: (i) "it's too depressing"; (ii) "we're just too arrogant".

Because Facilities Managers tend to put the smooth running of the plant first

[I did some work looking at the skills involved in Facilities Management a couple of years ago. This involved visiting buildings and being taken on tours through them by the Facility Manager. In almost every case, the first thing these blokes wanted to show me was the air-conditioning unit down in the sub-basement so I, too, could admire its contented hum. The electricity units were next...]

early post-occupancy evaluations tended to be technical evaluations, what would be properly labelled Facility Performance Evaluations. These are fine in their place but what we really mean by post-occupancy is that they are *occupied* – *occupied by people* – living in them or working in them (and sometimes both, a point that is especially relevant when it comes to facilities for older people needing care).

Post-*occupancy* reviews – in the sense we mean – are not commonly conducted on facilities designed for seniors and the elderly. Interestingly, in light of the disparaging remarks architects make even about themselves, the Design for Aging Knowledge Community within the American Institute of Architects (AIA) designed a most interesting project in 2006. Teams from the group would undertake post-occupancy evaluations of 21 senior living facilities that had been recognised by the architecture community for their design in the AIA's journal *Design for Aging Review* [Anderzhon *et al*<sup>3</sup>]. There were 21 sites in all, ranging from independent living apartments to nursing care.

There are any number of lessons and insights to be drawn from the AIA study. One finding that disappointed them: a number of sites that met their criterion for inclusion, which meant that they had been happy to let the AIA in to get a citation when first built, when contacted to be part of the post-occupancy evaluation study refused on the grounds it would be no benefit to them. In other words, as I understand it, these facilities had been happy enough to be admired as architectural objects, but not to be seen as environments that worked well or poorly for the individuals occupying them.

On the other hand, there are people genuinely interested in the potential for these reviews. The Anne's and myself attended the excellent *Environments for Aging Conference* in Tucson in March of this year and the sessions about post-occupancy reviews – done by members of the AIA or SAGE (the Society for the Advancement of Gerontological Environments, which since 1999 conducts a POE to present at the annual conference of The American Association of Homes and Services for the Aging (AAHSA)). The presentations at the AAHSA conference are reportedly very popular and certainly in Tucson, the POE sessions were well attended.

Both the AIA and SAGE have pro-formas for evaluating sites. SAGE's is divided into 3 sections:

- goals or issues that impact on residents: for example, privacy, accessibility, personalisation, safety and security, community, way-finding;

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<sup>3</sup> Anderzhon, J *et al* see footnote 1

- aspects of the setting that impact on staff activities: for example, is there sufficient storage? how far do they have to walk? is the lighting good (also impacts on residents, of course)? etc;
- specific features of the environment that are intended to make a difference: e.g., Main Street

The AIA evaluators used quite a complex rating guide. The format they adopted for reporting on the post-occupancy evaluations is clear and logical. Each facility is analysed under five headings:

- (i) a brief Introduction describing the facility, neighbourhood, and any particularly salient points;
- (ii) Designers' and Owners' Stated Objectives and Purposes: typically a brief 'objective' followed by an explanation of how the design is expected to achieve it. For example, at Rosewood Estate in Minnesota (68 assisted living apartments) which was built in 1989 and, hence, at the leading edge of rethinking these facilities, the design objectives included:
  - 'create a non-institutional homelike character' (now a common objective). To meet this objective: the architectural style was colonial with simple detailing; the site chosen suburban and the design ensured lots of natural lighting;
  - 'emphasize independence and self-help' (another now common objective). To meet it: 'the architecture lends itself to independence because the cluster design decreases the length of the corridors leading to central common spaces and thus encourages participation in social activities and care provision'.
- (iii) Field observations: meeting the objectives: the evaluation team takes each objective and observes whether, and how exactly, it is being achieved or not. At Rosewood, for example, as the need for staffing increased with the reduced acuity level of residents, the lounges along the corridor which originally received good natural light had been partly converted to offices. The resulting smaller lounges were now poorly lit with fluorescent lighting giving them a far more institutional feel.
- (iv) Field observations: themes and hypotheses these are the concerns (or issues) which the AIA Knowledge Community, in this case, thought important. It is interesting to note that they apply these same concerns across the whole range of facilities they evaluated – that is, from independent living (what we would call retirement villages) to high care facilities:
  - creating community – for example, at Rosewood they observe that the 30 residents gathered for morning exercise activity sat in very close proximity to one another but spoke only to the staff member leading the activity. They seemed enthusiastic about the activity but not to use it as an opportunity to interact with one another ... even when they assembled in the lobby afterwards for morning tea the residents spoke only to staff members;
  - making a home;
  - regional/cultural design – does the design take into consideration local styles, ambience?
  - environment therapy – whether/how the environment creates a therapeutic effect;
  - outdoor environment;
  - quality of workplace and physical plant;

on finance: they don't have a separate section about finances and marketing although costs and sources of finance are listed for each facility and mention often made about their market strategy and occupancy rates.
- (v) Operator Perspectives: a brief comment based on discussion with the operator.

**where to from here?** These American post-occupancy evaluations are interesting but from our point of view fall a bit short of the mark or, rather, it would be fairer to say we would do them a little differently. The primary difference would be that we're more interested in how it really works for people. So a comment about Rosewood like:

*The concept of shared space appears difficult for the residents and staff to fully embrace...This is not a failure of the architecture but a failure of the population to understand the architecture and take full advantage of the environment.*

seems to me to rather miss the point! Or at an assisted living facility for people with dementia, under observations about 'creating community', the evaluators note that the residential atmosphere is 'very appealing ... decorative elements incorporate a variety of finishes, colours and textures are great eye

candy'. Eye Candy! Although, in fairness, the evaluators did conclude that 'the influence of the environment on residents would warrant further study'.

I think we would:

- try to interact more with residents and staff: perhaps adopting – certainly considering – the use of cultural probes. This is a methodology pioneered at the Royal College of Art in London when they wanted to understand how the elderly might interface/use technology<sup>4</sup>. They realised a simple interview would not give them the insight they needed, so they gave these people disposable cameras with instructions to take pictures of things they liked to use (and didn't), red things and green things. They gave them maps and asked them to indicate places they went and why; places they avoided, and why. We have experimented with using cultural probes in research undertaken in the education sector;
- include in the evaluation systematic observations/assessment of the way residents' (and, ideally, staff's) emotional needs are being met;
- make more linkages between findings in different facilities. For example, the gardens were well used at Woodside Place, but not at all in a similar facility evaluated in the AIA study. It would be interesting to account for the difference;
- I have a particular interest in how adaptive these buildings are. The average age of residents and degree of care they need often increases over time in a facility. Many of the AIA sites when first established had occupants that on average were five, and sometimes ten or more, years younger than the current residents. That change is mirrored in many Australian facilities. There is an interesting book, *How Buildings Learn*<sup>5</sup>, with ideas about what makes buildings easier or harder to adapt to changing needs. The way facilities have changed would be insightful to assess in post-occupancy evaluations.

The point of all this: we'd like to explore the potential for post-occupancy reviews here – again, not to frighten developers, but to develop a trusted (and trustworthy) technique that will lead to greater understanding and continuous improvement across the wide range of evolving facilities for older Australians<sup>6</sup>. We are particularly interested in retirement villages. It has been suggested to us, including by managers of these villages, that people moving into them develop a degree of passivity that is unwarranted and may be detrimental in the longer term. They may still be physically active, but are not taking on the kinds of challenges that really stimulate acuity (and, indeed, the satisfaction that comes from accomplishing difficult tasks<sup>7</sup>).

We have taken some initial steps on our journey into the world of *occupancy* evaluations:

- in early 2009 we will be working with Brightwater here in Western Australia to study how the move to more residential settings for older people with dementia has influenced the ways staff work. The fact that the single physical space is used, and conceptualised, by two different groups in two quite different ways – as home to one, workplace to the other – raises some interesting questions. Has the change to a more homelike environment to enhance the

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<sup>4</sup> Gaver, B, Dunne, T, Pacenti E 1999, *Interaction* 6 (1) 'Cultural Probes' ACM Press, NY p 21- 29

<sup>5</sup> Brand, S. 1994, *How Buildings Learn: What Happens After They're Built*, Penguin Books

<sup>6</sup> relevant studies that are, or bear some resemblance to, post-occupancy evaluations have been undertaken in Australia. A partial list includes:

- Ronald Smith (and his adviser Prof Mark Mathews), University of Sydney, have observed changes in resident engagement (non-engagement and distress) on moving to more home-like cottages using both behaviour mapping and time sampling observation;
- Dr Malgosia Zlobicki, QUT, has developed – and is using in a number of settings – a sophisticated and comprehensive instrument for conducting post-occupancy evaluations specifically for aged care although it can be adapted for other facilities;
- Maree Petersen, University of Queensland, is conducting a study on spaces for ageing that includes an analysis of how older people experience the type of retirement villages which are large segregated spaces where only older people live.

<sup>7</sup> see, for example, Csikszentmihalyi, M. 1997, *Finding Flow: The Psychology of Engagement with Everyday Life*, Basic Books, New York.

well-being and personhood of older residents changed the way in which care is provided, or nursing, therapy, and so on? Are there dilemmas for the various staff in working in these re-defined spaces? advantages? how? why?

- I emailed a question to Chris Watson, principal of an architectural firm called Post Occupancy Evaluation which I found on the Internet, about whether he had done any evaluations of accommodation/care environments for older people. It turns out Chris hadn't done any post-occupancy evaluations of facilities for seniors (although he has done a hundred others), but he emailed my query to a colleague in Texas, who emailed it to several others, and we now have a network of researchers in Texas, Minnesota, Ireland and London – and Chris himself – all interested in what we might do in Australia and more than willing to help;
- and, indeed, as I said at the start, my presence at this conference is quite deliberately to extend our network of interested *occupancy* evaluators to include AAG members and other conference attendees – or others you might suggest.

One further point, for anyone interested: the American Institute of Architects is doing a web seminar on 10 December 2:00pm ET (USA) which actually is 4:00 am Perth time or a slightly more respectable 6:00 am Melbourne/Sydney: [http://www.aia.org/ev\\_dfa\\_webinar\\_2](http://www.aia.org/ev_dfa_webinar_2)