Why we need more compassionate architecture when designing for vulnerable people

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The ageing of the population highlighted the need for inclusive and enabling societies. This created a market for new sectors of the economy to target products and services towards increasing personal autonomy and inclusivity. However, this article argues that the two alone do not suffice, despite medicine and IT constituting key areas that contribute to significant advancements to people's health and autonomy. As long as the built environment remains our physical context, we do need buildings to be fit for purpose. Contrary, the current building stock limits opportunities for meaningful and autonomous lives, contributing to increased loneliness and isolation in old age, let alone problems of physical health.

Scholars of architecture and architectural theory tend to focus on abstract concepts around the process of design, aesthetics and form. User experience in terms of ordinary built environment is rarely the subject of architectural education. Our houses tend to be less complex in terms of design requirements but are nonetheless significant for our well-being. After all, these are the spaces where we generally spend most of our time. Yet, both the architectural theory regarding housing and the building regulations tend to be uninformed by issues related to the interface between human health and interior design. Moreover, our perception of space, the elements in our environment that we find restorative or tiring, helpful or strenuous, change during our lives. This happens together with changes in our bodies. Currently the gap created by inadequate architectural built environments is covered by technology but this is mostly for implementing mechanisms for early intervention in falls, such as sensors. Adding the built environment into this equation, could prevent some of those falls in the first place.

In what follows I will provide four examples that illustrate this gap between physiology, perception, and the built environment and will illustrate the imperative to change the paradigm that our built environment is designed and created without us being asked or directly involved.

1. **The intimate setting**

BBC news featured an 87-year-old rescued after being stuck in her bathtub for four days (1). She "kept calm" and poured hot water to prevent hypothermia. The story could raise questions about the direct or indirect implications of the design with regards to social isolation, the use of technological devices and preventive environments. First, space and its configuration can influence both the frequency and the type of social encounters (2). Second, in residences, technologies such as cameras could keep an eye on us, especially in areas of perceived high risk. Finally, we should rethink the design of the bathtub itself.

2. **The private setting**

Building regulations barely mention any measures to mitigate accidents in residential environments. On the contrary, in the area of assisted housing and home environments there is an absence of standards for practice to inform design professionals on the needs of vulnerable people (3). Figure 1 shows a social housing floorplan where a non-frail 79-year-old died following a fall during a night visit to the toilet when she was half asleep. The example demonstrates that poor design, in combination with other physical or perception

factors – in this case reduced alertness – could add to the risk. Figure 1a features the layout and the interior floorplan of a home where a couple lived. The woman got out of bed, walked through the corridor and fell as she tried to reach the bathroom light switch, i.e., the red dot on the wall, located by the toilet door over the staircase. Everything in this house complied with building regulations. However, Figure 1b illustrates an alternative design where the fall could have been prevented by safe, no-barrier zone between the bedroom and the bathroom. The incident was partially the result of design decisions and regulations that were uninformed about the needs of older adults.

Figure 1a

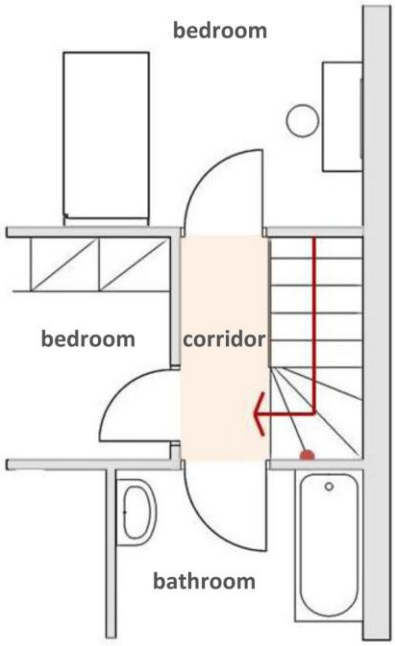

Figure 1b

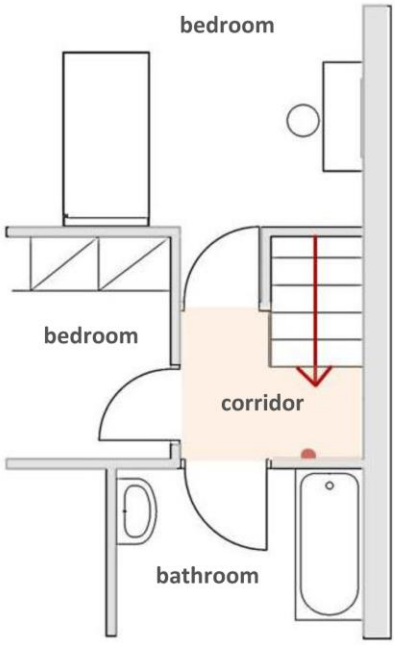

Figure 1a, b: Current social housing floorplan (1a) and hypothetical redesigned floorplan (1b)

3. The healthcare setting

The third example represents a more specialized healthcare architecture. It highlights a key finding from a project investigating the architecture of the first dementia village in the Netherlands (4). The village aims to incorporate in its built environment what was considered state-of-the-art in design for residences for dementia patients, employing technology, landscaping and a protected environment with positive distraction stimuli and art as visual memory aids. Yet, the most private space of the village, the toilet of the common area (Figure 2), where residents go unescorted, lacks any visual or physical aid. Everything follows the same colour scheme, without visual discrimination between vertical and horizontal surfaces or the toilet seat and accessories. Plus, there is a complete absence of any mobility aids for people to support themselves. However, even if there is best practice guidance for the design of healthcare facilities, architects do not always have to comply.

Figure 2: Restaurant toilet in the dementia village

4. The public setting

Finally, I will concentrate on public projects created by "star architects". My example involves a public car park, well known to people interested in architectural avant-garde. A world-leading figure at a star-architect firm used it as an example of architectural excellence during a presentation to post-graduate architectural students. The famous car park featured floor patterns that could be perceived as changes of level by people with dementia or partial visual impairment. Addressing the question about the lack of consideration for neurodiversity, the architect commented that their firm did not design for healthcare but rather buildings such as luxury offices or airports. Yet, airports rely heavily on design means for navigation especially since older people need architectural information for orientation. Occasionally, architectural avant-garde has delivered stations and public areas that were deprived even of seating, ensuring that the design would remain unpolluted by such amenities (5).

The need for seamless, integrated environment at the heart of the stakeholder initiatives

The examples outlined concern the whole spectrum of the built environment and constitute anecdotes regarding the state of the built environment as the global population ages. The examples mentioned indicate what AGE Platform Europe advocates: that universal accessibility aids are not a panacea for the psychosocial integration of older people and it is imperative that both perception and physical needs be addressed.

A call for paradigm shift

Currently our built environment is too fragmented and far too partial. If we want the built environment not to be our societal weak link, it is important to determine how to bring on board the people who actually experience these spaces daily and encounter the difficulties of old age from the beginning as decision makers.

Involving end-users in their environments from day one is a clear path to success, as my research on environments for acute mentally ill people shows (6). The project "It takes a Village" (7) demonstrate that even Alzheimer's patients with the right multi-disciplinary approach could reclaim their cities.

It also has to be everywhere and in everyplace. For dementia-friendly supermarkets, for instance, staff training is a common measure and is necessary. Let's consider an age-friendly till with a non-discriminatory, take-your-time sign over it, a wider space for people to pass next to it and a folded seat for the people still waiting in the queue (8).

For that we need everybody. We must explain to people the benefits of inclusive societies. We need to remember that for the architect to design a 'take-your-time till' we need a supermarket owner to approve it or, even better, request it. Finally, this new paradigm needs to be taught in architectural schools where most students are younger than 25 years old and at that age are generally unable to imagine physical or mental decline in older age. Last but not least, these concepts should be provided in courses of continuous education of all professionals working on the planning and the delivery of built environment.

As a teacher I often use the paradigm of the Hippocratic Oath, a phrase that is cited by all physicians, insisting that it should equally apply to architects: "First do no harm. Then, try to do good". These two lines, in that order, should support a new paradigm that all architects and professionals of the built environment should be aware of and incorporate in their practice.

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