DESIGNING FOR THE THIRD AGE

ARCHITECTURAL DESIGN
MARCH/APRIL 2014
PROFILE NO 228
GUEST-EDITED BY LORRAINE FARRELLY

Architecture Redefined for a Generation of 'Active Agers'

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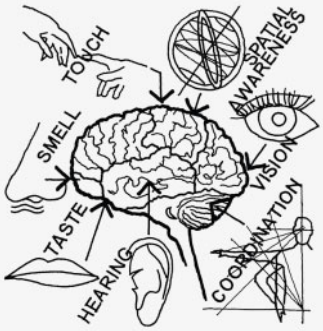
'Self-determined life in its entirety is careful long-term planning, which can only happen when ageing is acknowledged as a state of human existence, and as such deserves preparation, anticipation and excitement.' — Matthias Hollwich



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Front cover: Hollwich Kushner (HWKN), Boom Palm Springs, Palm Springs, California, 2011. © Hollwich Kushner (HWKN)

Inside front cover: Michael Maltzan Architecture, New Carver Apartments, Los Angeles, California, 2009. © Iwan Baan

EDITORIAL

Helen Castle

Ageing is perhaps one of the most pressing topics of our times. Most of the articles in this issue open with gobsmacking statistics, highlighting the extent to which the population of over-65s is growing exponentially – whether in the US, Europe, Australia, India or China. The impact of an ageing population is felt on the population as a whole and cuts across the entire physical environment. As the retirement age retreats even further away from the horizon for those in work, it also squeezes the career chances of younger people attempting to enter work. Whereas opportunities for architectural design for the aged have conventionally been confined to the highly standardised and uninspiring requirements of the retirement or nursing home, most building types and the urban environment as a whole now need to be reconsidered, modified or adapted to respond to demographic change. Japan, which has the highest life expectancy in the world, provides some key insights into what countries with a greater percentage of older people and falling birth rate might look like. In fact Kunio Kitamura, Head of the Japan Family Planning Association, has expressed the opinion that the demographic crisis is currently so serious there that Japan 'might eventually perish into extinction'; last year was the first year in Japan that incontinence pads outsold baby nappies.[1] It seems no building type in Japan is exempt from the needs of older people. Japan already has a prison population where over 20 per cent of inmates are over 65. This has required that specialist prison blocks are fitted out for older prison mates with handrails in the corridors.[2]

In developing and commissioning the content for this AD, a strong emphasis was placed on presenting ageing as a positive and international issue in order to engage a wide global audience of architects and students. The cover image by New York architects Hollwich Kushner (HWKN) of their Boom Palm Springs project consciously stretches the stereotypical notion of ageing in its vibrancy and age and gender profiling. For the increase in the ageing population, which the bulging baby-boom generation now brings, should be grasped as a unique opportunity to develop new thinking and ideas around active ageing: to the benefit of society and the environment as a whole. Key to this concept is the 'Housing from 8 to 80' student design competition that Guest-Editor Lorraine Farrelly and AD launched asking students to design lifetime homes (see pp 126–35). This holistic emphasis on ageing as an issue that cannot be severed from the needs of the rest of the population has also been accommodated in the volume by the invitation to architectural historian, critic and author Jayne Merkel to provide a Counterpoint (pp 136–41) that answers up on the side of the younger population. Could the need for affordable housing among young adults be greater than if not equal to those of older generations? AD

Notes

1. Abigail Haworth, 'Generation Sexless: What Happens to a Country when its Young People Stop Having Sex? Japan is Finding Out …', *The Observer Magazine*, 20 October 2013, pp 22–9.
2. 'No Sex Please We're Japanese', presented by Anita Rani, BBC2, 24 October 2013.

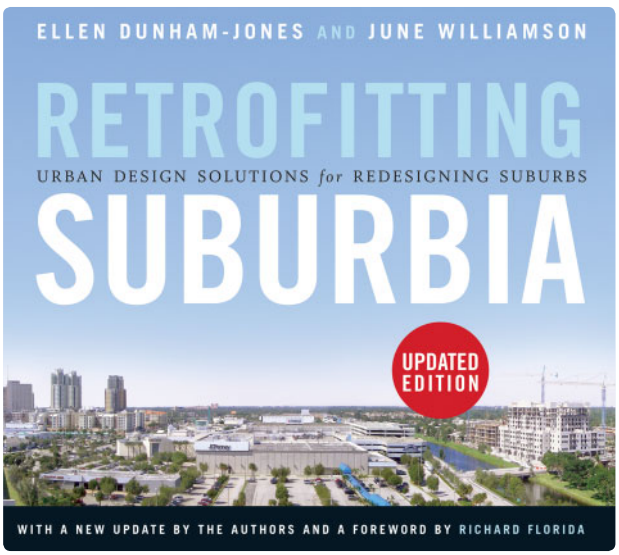
The Third Space, University of Portsmouth, 2010
The Third Space is a new social learning space for students at the University of Portsmouth. The concept was designed by Lorraine Farrelly working with the university's Project Office.

Lorraine Farrelly qualified as an architect through an academic and then practice-based education. She began her academic career at the University of Portsmouth, to where she later returned initially as a design tutor before being appointed Professor of Architecture and Design in 2011. This followed a period in practice in London and Hampshire during which she worked on projects ranging in scale from retail fit-outs to housing and masterplanning. She initially taught part-time and worked in practice, and this combination of practical experience and education has been an important aspect of her professional career, with both informing the other. Challenging the evolving debate around architectural education nationally and internationally requires a response to the expectations of the real world, the client, other disciplines and society.

She has written many international papers as well as seven books on architecture, urban design and interior design. Her specific interest is housing and its relationship to the city. She has been part of Design Review, a forum of appointed professionals organised by planning authorities across the UK to inform discussion about the quality of architecture and place making and advise on strategic architectural and urban design proposals. She has also written about educational environments and their relationship to the university campus and the city context. She is currently a consultant architect for, and part of the management group of the University of Portsmouth's Project Office, an architectural consultancy under the umbrella of the university's School of Architecture, which provides knowledge transfer, consultancy and research opportunities for full-time and part-time staff and students, working on 'live' projects with 'real' clients.

INTRODUCTION
By Lorraine Farrelly

REDEFINING, REINVENTING AND REALIGNING DESIGN FOR DEMOGRAPHIC CHANGE



Cover of Ellen Dunham-Jones and June Williamson's *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*, 2011
The book describes the possibility for suburban developments to be redesigned into more sustainable places, to evolve and respond to changing economic and social conditions.

By 2035, more than a third of the UK population will be over 60.[1] In the US, over the next four decades, the government's Administration on Aging department predicts that the ageing population will account for 1 in 5 US residents.[2] And in China, the number of the population over 60 is predicted to be 336 million by 2030, a quarter of the population;[3] coupled with the country's one-child policy implemented in the 1980s, this means that there is a diminishing number of the population to care for ageing parents and grandparents, referred to as the '4:2:1 Paradigm': four grandparents, two parents and one child.[4]

All of this has social implications for our responsibility for the elderly, while the demographic shift also presents challenges in terms of expectations for urban design, housing and other built provision to accommodate an ageing population. The design of our urban centres needs to change to encourage a more integrated way of living.

Suburbia needs to be redefined as a new type of interstitial space. In the US, the concept of retrofitting and reinventing suburbia has created new paradigms, as our residential patterns change and more diverse housing choices, or integrated living solutions, are required. The 'retrofitting suburbia' concept was introduced by Ellen Dunham-Jones, Professor of Architecture and Urban Design at Georgia Tech in Atlanta. In her book with June Williamson, *Retrofitting Suburbia*, she challenges existing preconceptions of the city. One of the many concepts that Dunham-Jones and Williamson put forward is the future creation of integrated environments for our society; accommodating a range of different age groups is about adapting places and spaces to their needs, as much as adapting the city for different cultural groups. Sustainable cities for all, inclusive of age, can be achieved through re-inhabitation, re-greening and redevelopment.[5]

How can visionary architectural solutions for living in sustainable cities accommodate the change in population, reducing models of dependency for care and transport and creating

Amelia Mashhoudy and Teatum + Teatum, Reinventing the Family Home, 2013
This image of intergenerational housing illustrates the RIBA Building Futures report 'Silver Linings: The Active Third Age and the City', highlighting how 'an ever-tighter familial interdependency is being forged in some quarters, with increasing numbers of extended families living under one roof' to their 'mutual benefit'.

Sustainable cities for all, inclusive of age, can be achieved through re-inhabitation, re-greening and redevelopment.

opportunities for recreation, leisure and work? This problem needs to be addressed at the strategic level of the city, as reflected in the World Health Organization's Global Network of Age-Friendly Cities and Communities initiative,[6] considering adaptable sustainable environments that allow for independent living, and cater for all cultural and demographic groups. It must also be understood at the scale of the individual, with innovative responses to the planning of homes, and even furniture design, to create living spaces that can adapt to changing circumstances.

Ageing is inevitable, so a population that lives longer is a positive prospect for all of us as individuals, and an achievement for society. Figures from the World Health Organization illustrate that the average age of life expectancy is now 70, as opposed to just 64 in 1990.[7] For higher-income countries, this rises to 80, while in low-income countries the average age is 60. However, the important issue here is the quality of life of this new extended lifetime. Appropriately designed responses are thus required in our cities, buildings and homes. The cities we live in need to be accessible, and neighbourhoods and homes need to be adaptable to our changing expectations and physical limitations in terms of mobility and lifestyle.

In the UK, the Royal Institute of British Architects (RIBA) Building Futures think-tank, under the Chair of Dickon Robinson, has sent out a call to action to architects, urbanists, government, policymakers and educators to respond to demographic change with the launch of its engaging illustrated report 'Silver Linings: The Active Third Age and the City'.[8] Building Futures highlights not only how the UK population is simultaneously growing and ageing, with more than 40 per cent of the population being over 60 in two decades' time, but also how increasing numbers could, in the future, enjoy an active life into their 60s and mid-70s and how the city needs to adapt to respond to this. It does this in concrete terms by providing six speculative scenarios at various urban scales to highlight the potential positive impact of an active third age in shaping the evolving city: a club-like mansion block, the intergenerational family home, a revived high street, a regenerated seaside resort, the pop-up university and the provision of urban health hubs.

As highlighted by the RIBA report, an ageing population will have a range of impacts on society. There will be pressure on families to care for relatives, and on employers to consider different working times and adapt existing working environments. Our homes will need to be flexible in terms of their planning to meet these changing circumstances. We will need new housing typologies that include facilities with associated care, as well as sheltered housing with live-in support. These might range from fully independent living for the active elderly in small units to more integrated communities.

New Communities, New Contexts

Traditionally, and across many cultures, the courtyard house has been a solution that allows large families to live together, sharing the open courtyard as a communal space. This concept still forms the basis of some contemporary housing across Scandinavia, but also in China, India and South America. Traditional solutions are thus a relevant precedent for informing contemporary ideas for housing. In his article 'China's Concealed Crisis' (pp 68–73), Edward Denison and Guang Yu Ren refer to these traditional Chinese housing forms, while Radhika Vaidya and Anjali Raje (pp 60–67) look at the situation in India, focusing on the building of inclusive communities.

There are also possibilities to develop environments where intergenerational communities can live together and support one another. The crises of housing availability and, therefore, affordability in many economies mean that the younger generation often cannot find suitable housing solutions. Ideas such as multi-generational home sharing and cohousing offer solutions not just for older people, but can also provide younger generations with comfortable places to live. Though these options might not suit everyone, flexibility in terms of choice is important.

The many international examples that demonstrate new ways of living in response to these challenges are influenced not only

by financial investment, but also by cultural and social attitudes. In the US, the Department of Housing and Urban Development encourages intergenerational families to live together, as by doing so they provide their own inherent support system: from the elderly supporting children and providing childcare, to the children caring for parents and grandparents as they become more dependent. Capital funding has therefore been provided for these projects, an example of which is the Roseland Grandfamily Apartments in Chicago, a US$2 million project to create 10 units for 34 residents of all ages, offering a real cross-section of the community, which was completed in 2011.[9]

In this issue, Kathryn Firth and Manisha Patel's article on the Queen Elizabeth Olympic Park (pp 88–93) in East London focuses on PRP Architects' multi-generation house as part of the sustainable regeneration of this part of the city. Here, PRP have designed larger houses as flexible adaptable homes. Matthias Hollwich and Matthew Hoffman of HWKN architects in New York refer to this multi-generational concept in their article (pp 20–27), which considers shared housing typologies with shared social and individual sleeping spaces.

Regeneration is also about the creation of mixed communities. Le Corbusier's Unité d'Habitation in Marseilles (1952) is a good example of a community that was created as a multi-family environment with carefully designed public spaces to support the idea that this was a city within a city, and to encourage people to socialise and identify with one another at the neighbourhood scale. The community interaction was designed for all generations, replacing the street as the space to interact with new recreation areas.

In Singapore, SCDA Architects are creating 'apartments in the sky' with landscaped terraces at various levels. Their SkyTerrace@Dawson multi-generational complex (due for completion in 2015) near Singapore's Downtown area accommodates the elderly in studio apartments attached to larger duplex units, allowing ageing parents to be located alongside children and grandchildren while also maintaining their independence. Designed as precast units, each apartment is prefabricated off-site as a set of modules that are easily assembled on site. On an adjacent site, WOHA Architects are also developing the 'sky village' concept in SkyVille@Dawson, also due to be completed in 2015. These 11-storey neighbourhoods centred around communal gardens encourage residents to interact around garden spaces. They are literally villages in the sky, stacked on top of one another with shared social spaces. Both of these housing solutions respond to the economic as well as the social climate; that is, to the pressure for sustainable design and the country's rapidly increasing population.

In April 2013, in his 'Housing and Intergenerational Fairness' report, Alex Morton, Head of Housing, Planning and Urban Policy at Policy Exchange (a charity responding to UK government planning policy issues) set out recommendations calling for the planning system to undergo reforms to encourage developers to build more homes, including bungalows attractive to older people looking to downsize.[10] The intention is to try to free up larger homes for younger families and help to reduce the generational divide. Solutions to this problem are part of the political discussion, and housing policies such as this are having an impact on development possibilities where the ageing population and their needs are seen as part of a broader consideration for society.

Various urban design and town planning concepts are also now having an impact. For example, the Walkshed[11] sophisticated web application enables users to explore the walkability heat maps of Philadelphia and New York City to establish personalised walkable zones within a mile of home (based on the concept of the watershed as a source of water) to encourage the development of neighbourhoods with services and facilities that could reasonably be reached on foot. Alongside the trend for mixed-use and flexible housing approaches, and downsizing, walkable neighbourhoods will improve and increase the living possibilities for all age groups, reducing reliance on cars and helping to build a local community.

Ageing is inevitable, so a population that lives longer is a positive prospect for all of us as individuals, and an achievement for society.

WOHA, Skyville@Dawson, Singapore, due for completion in 2015
The community spaces such as gardens and terraces are essential to the scheme.

Reinventing the City

Recycling spaces, places, buildings and materials helps to create flexible approaches to living in the city. However, sustainability is not just about materials or energy use; it also requires adaptable planning solutions. An example of 'recycling' housing in the UK is Park Hill in Sheffield, which has gone through many incarnations. The original brief was developed by Jack Lynn and Ivor Smith to accommodate multi-generational living, from a single pensioner to a young family. Built in 1961 as a single building of over 1,000 apartments that developed the 'streets in the sky' idea to replace the terraced streets of Victorian housing, it became dilapidated over time and required reinventing in terms of its layout, to a limited degree, but also in terms of the community mix.

The regenerated project has just been completed by architects Hawkins\Brown with Studio Egret West, who worked with developers Urban Splash to completely redesign and reinvent both building and community. Architecturally, it is considered an important reference of community housing. It has been reinvented by reconsidering not only the internal fit-out, but also its relationship to the external landscaped spaces. Community now exists in the streets in the sky, as well as in the gardens and redefined public spaces. The scheme was one of the projects shortlisted for the RIBA Stirling Prize in 2013.[12]

To respond to the challenges of our changing society, communities need to adapt, housing and urban design needs to be more flexible, and associated technologies need to offer systems that support people as they become more dependent. The solutions rely on the views and actions of policymakers, politicians, developers and investors, but also on scientists and engineers to develop technologies that can support independent living. Architects and urban designers also have a role to play in creating a vision for our changing societies that is proactive and not just reactive; however, they need to be aware of the issues around the sensitivity of the individuals who need to be housed, as well as financial drivers.

top: This affordable housing scheme, a series of stacked villages, consists of 960 homes.

bottom: Internal social spaces for people to meet encourage community interaction.

It is the responsibility of us all to contribute to solutions for an ageing population; the gift of old age is society's responsibility.

Hawkins\Brown, Park Hill, Sheffield, South Yorkshire, UK, 2012
Redeveloped by architects Hawkins\Brown, this iconic housing development was originally designed in 1961.

Interior of one of the refurbished apartments at Park Hill. The flexible, open-plan layout can be adapted to contemporary living.

It is the responsibility of us all to contribute to solutions for an ageing population; the gift of old age is society's responsibility. We need housing and spaces that offer dignity as people age, in positive, interesting and appealing places to live and work. This is a message that is very much enforced by Baroness Greengross (pp 14–19) in her interview with AD's Editor, Helen Castle. An influential campaigner for the aged, Greengross has played an instrumental part in changing age discrimination legislation in the UK, so that equality extends to not only services and facilities, but also the built environment.

This issue of AD features a range of projects that consider exciting ways to adapt existing buildings in the city for new uses. Examples include the Age-Friendly Districts in New York City described by Jerry Maltz and his co-authors (pp 36–45), who also look at the establishment of Senior Centers and business hubs for the aged which are influencing and creating new building typologies and approaches to living in the US and Canada. The 'care' home is thus being challenged and redefined as an interdependent community.

The issue also illustrates a range of international cultural responses to the ageing population, for example from India (see Vaidya and Raje, pp 60–67), and China (Denison and Ren, pp 68–73), which are evolving economies and populations. In addition, Robert Schmidt III and Toru Eguchi (pp 74–9) and Sally Stewart (pp 80–87) consider compact and traditional living environments based on the cultural and traditional aspects of Japanese life. In Australia, Mark Taylor and Laurie Buys (pp 54–9) consider 'ageing in place', facilitating the community as it grows older, making homes accessible, and dealing with the familiar. In the

Netherlands, Hans Becker's 'Humanitas care model' (pp 94–101) considers the issues of dignity and independence as individuals grow older. From her base in Copenhagen, Terri Peters describes how Denmark leads the way with a socially inclusive and innovative approach to designing for an ageing population (pp 46–53).

Various design competitions have encouraged creative ways to address housing an ageing population, and the issue includes an interesting proposal by Walter Menteth Architects (pp 102–7) for the RIBA Re-Imagine Ageing competition, sponsored by UK housing developer McCarthy & Stone, that focuses on community spaces as well as specialist housing solutions (pp 112–21).

To try to encourage some visionary thinking, an AD-sponsored student competition for alternative ideas for housing as people age (see pp 126–35) was run in parallel with this publication. Here, a new generation of designers from international schools of architecture and interior design were invited to contribute ideas and thinking around the problem of adaptable housing. Solutions are for individual spaces, but also community proposals.

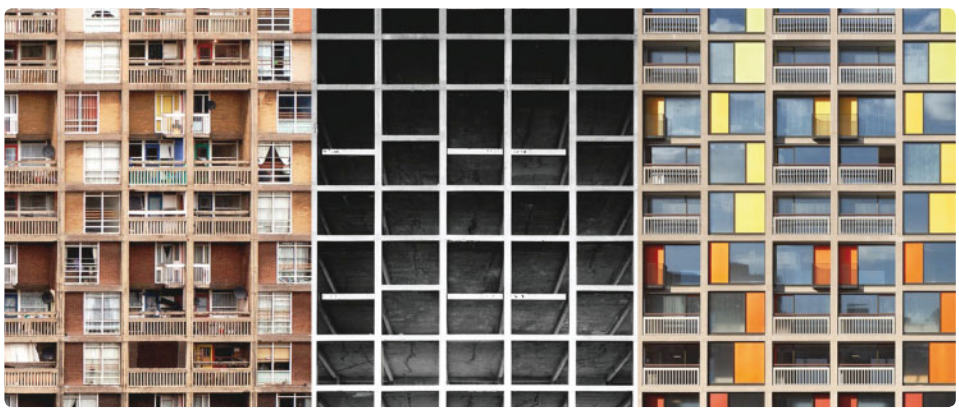
As the elderly population continues to grow, a new, international, multidisciplinary research field has emerged in practice and education. In this volume, for instance, Francesca Birks and Katherine Prater of Arup Foresight + Research + Innovation, Arup Group's specialist research unit and think-tank, explore what impact the confluence of climate change, urbanisation and the ageing population might have globally (see pp 28–35). Richard Mazuch, Director of Design Research and Innovation at healthcare specialist IBI/Nightingale, highlights the potential of sense-sensitive design as supported by evidence-based research (see pp 108–11).

There are also now several universities and institutions in which architects are engaging on projects with sociologists, psychologists and urban planners. This is a collaborative approach that is advocated by the RMIT University Design Research Institute (DRI) in Melbourne, which annually invites researchers, students, designers and experts from industry, business and the community to form teams and generate innovative ideas around a particular set of issues; Katherine Wilkinson describes the research projects that were instigated by the 2012–13 Design Challenge on Ageing (see pp 122–5).

This emphasis on the interdisciplinary has the potential to encourage designers to work holistically not only with external experts, but also across conventional professional boundaries, such as interior design, architecture and urban planning, enabling the necessary changes and adaptations for demographic change in the 21st century. AD

Notes

1. Office of National Statistics, 'Focus on Older People, Population Ageing in the United Kingdom and Europe', 2 March 2012: www.ons.gov.uk/ons/rel/mortality-ageing/focus-on-older-people/population-ageing-in-the-united-kingdom-and-europe/index.html.
2. Data from US Department of Health and Human Services, *National Vital Statistics Reports*, Vol 61, No 3, 2008: www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_03.pdf.
3. Figures from the World Health Organization, 'The Health of Aging Populations in China and India', 2013: www.ncbi.nlm.nih.gov/pmc/articles/PMC3645349/.
4. F Sun, 'Ageing of the Population in China: Trends and Implications', *Asia-Pacific Population Journal*, 13, 1998, pp 75–92.
5. Ellen Dunham-Jones and June Williamson, *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*, John Wiley & Sons (Hoboken, NJ), 2011. See also June Williamson, *Designing Suburban Futures: New Models from Build a Better Burb*, Island Press (Washington), 2013 p 38.
6. For information on the World Health Organization Global Network of Age-Friendly Cities and Communities see: www.who.int/ageing/age_friendly_cities_network/en/.
7. World Health Organization, *World Health Statistics 2011*: www.who.int/whosis/whostat/2011/en/.
8. 'Silver Linings: The Active Third Age and the City', RIBA Building Futures Committee, 22 October 2013. See pdf at: www.architecture.com/TheRIBA/AboutUs/InfluencingPolicy/BuildingFutures/silverlinings.aspx/#.UmgFzlP47Dw.
9. See http://archives.hud.gov/funding/2008/ehif2008.cfm.
10. Alex Morton, 'Housing and Intergenerational Fairness', April 2013, p 12: www.policyexchange.org.uk/images/publications/housing%20and%20intergenerational%20fairness.pdf.
11. http://walkshed.org/.
12. http://ribastirlingprize.architecture.com/riba-stirling-shortlist-2013-park-hill-sheffield/.



Facade of the Park Hill redevelopment, before, during and after refurbishment.