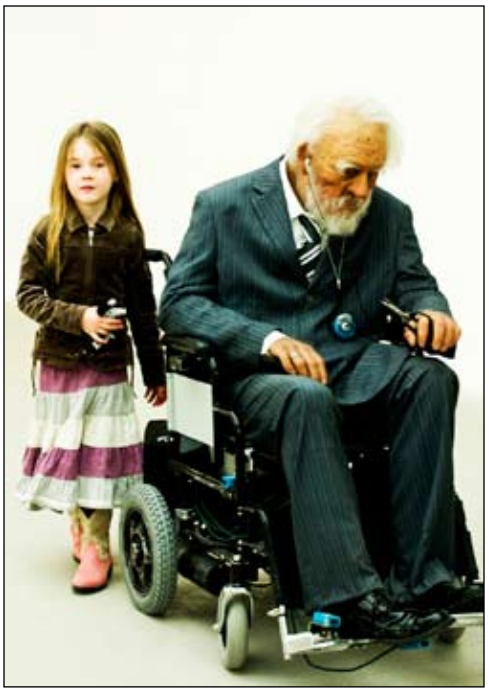
What has design got to do with it?
The impact of image for an aging population

By Glen Hougan

Question. Does the look and type of products and environments used by our seniors influence our view of them as well as their view of themselves?

Answer. Yes!



Health care designer Gretchen Anderson says that if we view seniors through the products that are available to them then they would be seen as 'cranky, stupid, and tacky'. [1] The implications of this is numerous. Many of the objects designed for our older population have that 'smell of a hospital' about them? The problem is that this reinforces societies ageist attitudes that our seniors are frail and sick. Becca Levy, a psychologist who studies the effects of age, says that many people start developing stereotypes about older people during childhood, reinforce them throughout adulthood, and then enter old age with attitudes toward their own age group as negative as the younger people's attitudes about them.[2]

There is a need to change the design language of products to communicate a positive and healthier image of aging. This will help combat society's ageist attitudes and better help seniors negotiate the aging process. As an industrial/product designer and educator, I believe that designers have a significant role in the future of health care by designing products and environments that promote a positive and healthy model for our aging population.

Ageism

In a survey I undertook at the beginning of the course I taught at the Nova Scotial College of Art and Design (NSCAD) called 'Design for An Aging Population', I asked students to write down three words that describe an elderly person. Almost three quarters of their responses had negative associations revolving around words like weak, slow, and feeble.[3] An ongoing research effort at Harvard University, the University of Virginia, and University of Washington called Project Implicit allows people to determine their own prejudices with online tests.[4] With over 2.2 million tests tabulated, researchers found that the largest prejudicial bias people had was not towards people of different race or sex but towards

1 Anderson, G. Frog design mind: product design for the elderly, online at http://gizmodo.com/gadgets/columns/frog-design-mind-169097.php accessed April 15, 2007

2. Ageism In America (2006), The Anti-Ageism Task force at the International Longevity Center USA (ILC-USA) The report can be accessed at http://www.ilcusa.org/prj/ageism.htm.

3. This is a third year required studio course at the Nova Scotia College of Art and Design for those interested in product design. The course has subsequently been renamed User-centered design but the focus is still on an aging population.

4. The Project Implicit online test can be taken at https://implicit.harvard.edu/implicit/

the elderly.[5] One of the Harvard researchers suggested that this strong bias is because age is associated with negative qualities, such as decreases in stature, power, physical agility, and cognitive ability

The term ageism, stereotyping and discrimination based on age, was first coined in 1968 by Dr.. Robert Butler. He referred to it as 'the new bigotry'.[6] Unlike racism or sexism, ageism represents a prejudice against a group most of us will inevitably join. Ageism is one of the most widespread prejudices that cuts across age groups, genders, and cultures. It is also the one prejudice that often goes unchallenged.[7] Prejudice and stereotyping is manifested not only in our attitudes, actions, and language used to describe elderly people (i.e., codger, old biddy, doddering old dear, over the hill) but also in the look of the bulky unattractive products we design for them (i.e., orthopedic shoes). Ageism manifests itself through widespread mistreatment and denial of medical care and services, workplace discrimination, physical (elder abuse), financial abuse, stereotypical and degrading images in media and marketing. [8]

The roots of ageism are very complex, but much of it can be found in the modernization associated with industrialized countries and the shift from traditional agrarian societies to industrial societies. This shift has resulted in a lower status of older people. For example, increased literacy rates have diminished the older persons' role as keepers of the oral traditions. Technical skills are now being valued above experience and many of today's technical advances are putting older people who have not mastered those skills out of work. People today are also more transient and are loosing their connection to older relatives. Life expectancy has increased and institutionalized retirement is mandated, which removes older people from positions of importance. Another compelling suggestion for why ageism is so prevalent today is that it is linked to our fear of death.[9] In the past; old age was not associated with death because a large percentage of our society died before they reached old age. Add to this our culture's fixation on youth and beauty and all of this adds up to the image of elderly people as dependent, helpless, and unproductive.

Why products smell like a hospital

5. Cromie, W. J. (2003) Brain shows unconscious prejudices. Harvard University Gazette, June 17, 2003.

6. Butler, R.N. (1969), Ageism: another form of bigotry, Gerontologist 9(243).

7. Nelson, T (ed) (2002), Ageism: Stereotyping and prejudice against older persons. MIT Press.

8. The Anti-ageism Taskforce. (2007) Executive summary: Report Outline. Ageism in America, PDF online at http://www.ilcusa.org/prj/ageism.htm, accessed April 3, 2007

9. Nelson, T. D. (2005). "Ageism: Prejudice Against Our Feared Future Self", Journal of Social Issues. 61 (2), 207-221.

As Gretchen Anderson has said if we view the seniors through the products and environments we design for them then it is a negative image we have of them. The problem with products designed for seniors today can be broken down into three areas. The first one is related to the products use, which tends to focus on function rather than aesthetics. The second one is the product category, which mainly focus on assisting aides which focus on the dysfunction of the user. The last one is perception of the user, which is influenced by ageism in our society.

A look at many products directed at the elderly, especially assisted aid products (i.e., walkers), reveals a focus on function rather than aesthetics. For example, aids such as walkers and bath safety equipment used in the home are usually metal tubing that has a design language that speaks of a medical device in a hospital as opposed to a piece of furniture or assistance aid for the home. A look at electronic products that require some manipulation of controls (i.e., phones) tend to reveal products that are overwhelmed by large buttons. The common design strategy seems to be one of making controls as big as possible. This may be a reflection of ageist beliefs, which leads us to assume that the elderly are so physically impaired and incapable that those large bulky controls and products that smell like a hospital are what they need and want.

Looking at the products made for our seniors says much about ageist beliefs that product designers and manufacturers hold. Designer Anderson cites orthopedic shoes as an example of something that reflects our attitudes about the elderly. The orthopedic shoe, big and bulky, has a style and a color that has not changed in over 40 years. As she says, "When we talk about needs of seniors there is a tendency to imagine someone whose eyesight, dexterity, and hearing are so impaired that they are incapable of having an experience; it is therefore assumed that they will make do with, or perhaps even prefer, a mechanistic, bulky product that smells like a hospital."[10]

One of my students fell into that 'smell of the hospital' design aesthetic in her initial development of an ambulatory/lifting belt. These types of products are assistance aids used by caregivers to lift and move mainly elderly patients. She identified that current devices were unsafe and often slipped. Her initial prototype was a belt with a number of innovations such as straps to go under the crotch section making the act of lifting and moving elderly people safer. This bulky harness like device, not only screamed 'look at me I'm feeble', but also neglected to address issues of dignity. For example, the use of straps between the legs would be a problem for an elderly woman wearing a dress. One wonders whether these issues would have been identified earlier if the designer were developing it for another age group?

An assumption that elderly people will be happy to 'make do with' can be seen in the case of tennis balls and walkers. Many walkers have been fitted with split tennis balls on the bottom

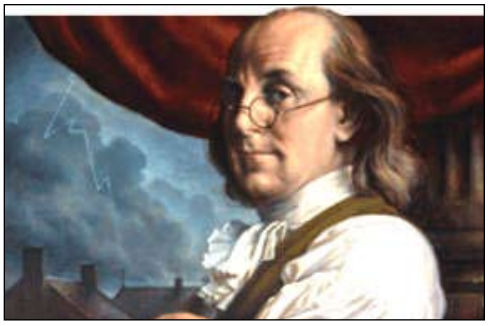
10. Anderson, G. Frog design mind: product design for the elderly, online at http://gizmodo.com/gadgets/columns/frog-design-mind-169097.php accessed April 15, 2007.

of the walker legs to allow it to slide easier over surfaces such as rugs. This simple but crude adaptation of the walker is a clear indication that the existing walker design is not meeting the needs of the elderly users. There is even a case of students at Western Washington University in the United States initiating the Walk Easy Project where they collected used tennis balls and went to local retirement homes and retrofitted walkers.[11] Considering the seriousness and cost of elderly people falling and the importance of mobility to their independence and well being, one wonders why walkers are not addressing this design issue? Current design attempts to address this need (i.e., mobility balls) are merely add-on products that replace the existing green and yellow tennis balls with precut tennis balls of different colors and patterns. The design aesthetic is still a tennis ball attached to the legs of a walker.

A new language

One way of combating our negative ageist attitudes is to not only redesign products our seniors use but also change the language we use to describe about these products. Language permeates the life of a product even before it is designed. Language use directs attention and frames perception. For example, it is a problem when the names of products our seniors use are associated with products our children use (i.e. walkers). This frames the interaction with and perception of our seniors as akin to infants. Interestingly we even speak to these age groups the same way through baby talk and elderspeak. The problem with elderspeak is that it triggers an older adult' perceptions of themselves as cognitively impaired. [12]

The study and meaning of signs and symbols and what they signify and communicate is called semiotics. Product or design semiotics is the study of the use of signs in the design of physical products and how people attribute meanings to products and interact with them accordingly. Klaus Krippendorff a design researcher says that the fate of all artifacts is decided in language and designers must pay attention to the names that may be used to categorize a product, the adjectives that may be attached to it, and to the narratives and stories and judgments that may be told about it.[13] For example, I just recently a new prescription for glasses. Where in the past I would have received 'bifocals' today I received 'progressives'. Progressive lenses, today's name for bifocals are even designed differently with the bifocal lens line being invisible. The narratives and stories associated with bifocals for myself brings up images of granfatherly Ben Franklin (its creator) with his glasses alwayspropped halfway down his nose. The new adjective 'progressive lenses' conjures up a quite different set of images and narratives that like its word are very positive.



What do people think of when they hear walking cane/stick verses Nordic walker? Both are

11. Business and its environment: Tennis ball recycling. Western Washington University, online at http://www.cbe.wwu.edu/dunn/wwu.mgt482.proj.spring2005.walkeasy accessed May 9, 2007

12. Kemper, Susan, Elderspeak, Acoustical Society of America Journal, Volume 113, Issue 4, pp. 2295 (2003).

13. Krippendorff, Klaus and Reihhart Butter (Eds.) (1989). Product Semantics. Design issues, 5(2).

aids to assist you in walking but where the walking cane is associated with the lack of mobility the Nordic walker is associated with increased mobility, activity and exercise. Our society's perception and image of our aging population using the Nordic walker product promotes a positive and healthy image of that products user group. Even the branding of the product as a 'Nordic' walker is associated with the healthy Scandinavian image.

The image of the walker with the tennis balls is also starting to change with new designs and a new name – 'Rollator'. Rollators are basically adjustable walkers with wheels attached to the bottom of the legs. The advantage of the wheels is that you don't have to lift the walker to go forward or backward. You just have to roll the walker along the ground to get from point A to point B. This makes it much easier to get around as the wheels are designed to turn, pivot and maneuver in a way that walkers can't. Again, where walkers have an established, mostly negative, narrative associated with them, rollators with their associated accessories such as seats and baskets have a more positive narrative attached to them. This is a narrative that promotes mobility and adaptability.

Changing perception through design

When the NSCAD student, Margo Durling, took her lifting/ambulatory belt design to the next design stage she changed her initial 'smell of a hospital' prototype to that of a more positive body equipment design language. In fact she looked at recreation and sports equipment for inspiration. In the further development of her product, issues of dignity and aesthetics were constantly discussed with users so that the eventual prototype was a dramatic departure from her previous one. The bulky belt was replaced by a slim vest that was easier to put on, looked better, worked better, and encouraged proper lifting techniques for the caregiver. The product had moved from the category of medical equipment to that of personal body equipment. The resulting design received the Innovation Award at the 2006 JCI Outstanding Young Canadians Awards. This student and her lifting vest ended up being profiled on the cover of the Canadian Business magazine.

Invention gets lots of support

NSCAD graduate gives health-care patients a real lift

By SEAN FLYNN Special

Given the entrepreneurial spirit at the heart of Nova Scotia's economy, it's no surprise that inventors from this province have answered the call to plunge into the Dragon's Den, the name of the CBC-TV reality show where individuals pitch their innovative inventions to a group of veteran investors.

While auditions have wrapped for the show, set to air this fall, other driven and passionate people continue to refine their projects out of the public eye.

Twenty-five year-old Margot Durling of Halifax, is one of them. She graduated this spring from NSCAD University with an honours degree in communication design. But her passion is product design, specifically products for health care, a fast-developing stream at NSCAD.

Recently, Durling, received the Innovation Award, part of the 2006 Outstanding Young Canadians Awards, for her primary project, the Ambulator, which she first started working on at NSCAD.

To ambulate is to lift and move a patient. It's one of the basic movements or tasks, a building block, in the health-care industry. Ambulating a patient is no small feat; it can be a highly stressful experience for patient and caregiver and a common cause of injury

Margot Durling, a communication design graduate of NSCAD University, has designed the Ambulator, a device used to help move patients in hospitals or at home. (Ted Pritchard / Staff)

Over the last year design my design students at NSCAD University (Nova Scotia College of Art and Design) have been involved in designing and building a space that helps promote a more positive view of our senior population. This new space, an intergenerational space, at a seniors drop in center is to be used by both seniors and local school children as part of the center's Grandfriends program.

Research suggests that for our society to combat ageist beliefs and behaviors, reverse elderly stereotypes, and restore a sense of esteem for older people we need more intergenerational contact.[14] The problem that the students found in interviewing both seniors and the children

14 Cuddy, A. J., Norton, M.I., Fiske, S. T., (2005), This old stereotype: The persuasiveness and persistence of the elderly stereotype. Journal of Social Issues, 61(2) 2005. pp. 267-285.

the space they had been using was not meeting their needs and in fact was promoting a stereotypical view of seniors as the school children and their teachers described the current space for the Grandfriends program as smelly, cluttered and scary. So what should have been a positive experience was being undermined by the environment, which was creating a negative narrative of where seniors hang out which was reflecting on seniors themselves.

In talking to both groups students developed a number of concepts for an intergenerational space that would help promote a healthy interaction between the different age groups and create a new positive narrative. The final design, subsequently built by the students, opened in June this year. The space employed universal design principles, moveable furniture and storage, easy adaptability of space, and a focal point of an aquarium which had positive benefits for both groups. The objective of the new design is that the children's formerly negative reaction to the senior center space will be replaced with a more positive narrative and better intergenerational experience.

Boomers driving the change

The business magazine cover story that was done on one of my students ("The Next Wave: The Boomer Effect") had the ad line 'In a few short years, hordes of retired, ageing baby boomers will reshape society one more time' The article states that just as designers and manufacturers are realizing that older consumers want better functionality for the products they use, they now have to get used to the fact that boomers (born from 1947–1967) also want products that look good. "Previous generations of older consumers may have been satisfied with plain products. The Boomers are not".[15] This demographic change is already driving the redesigns of existing products as even orthopedic shoes are now starting to be developed to be more hip and stylish for the boomers.[16] Many products are now being rethought in terms of the context of the aging population. Boeing is looking at redesigning their plane interiors to address the needs of a huge growth in boomer retirees flying.[17]

Not only do we have business developing products for this upcoming large and influential demographic but we also have designers interested in getting involved in designing for this demographic. For designers the interest is in the

15. "The boomer effect: Final impact", Financial Post Business Magazine, Oct. 2006. pp. 32-50
16. "Substance and Style: Baby boomers put best foot forward in orthopedic shoes", Cincinnati Business Courier, February 28, 2003.
17. Gayle E. Fly the grayer skies: As baby boomers reach senior citizen hood, Boeing looks for ways to meet their changing needs", Mechanical Engineering Design, March 2005, online at www.memagazine.org/supparch/desmar05/grayskies/grayskies.html

challenge of providing products that connect on a functional, emotional and aesthetic level. A lot of the new design of the traditional senior product categories is based on universal design principles. Universal design strives to be a broad-spectrum solution that produces buildings, products and environments that are usable and effective for everyone. These design principles involve: equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort and size and space for approach and use. [18]

One example of a very successful product that uses universal design principles is the Oxo Good Grip kitchen utensils. These larger handled utensils, originally inspired and designed for someone with arthritis, are now used in kitchens around the world. The design incorporates plump, resilient handles for twist and push-pull tools like knives and peelers, while squeeze tools like can openers had hard handles. All handles were oval in cross section, to better distribute forces on the hand and enhance grip, even for wet hands. The measuring cups and spoons featured large, high-contrast markings for visibility. Oxo does not market these at geriatric products for people with limitations but as useful products for people of all ages and levels of dexterity.[19]

As our population ages traditional products are being redesigned to make them better to use by older adults. Designers are finding that when employing universal design principles not only are they be easier to use by seniors but also therefore easier to use by everyone. This results in innovative better designed products.

Designer Deborah Alder redesigned the standard pharmacy pill bottle after her grandmother accidentally swallowed pills meant for her grandfather. [20] The ClearRx pill bottles, now available through Target stores in the United States, involved not only change in the shape of the bottle and also in the information presented on the bottle label. All of these changes made it easier for seniors to use. Target brands the ClearRx pill bottle as an innovative prescription distribution and communication system that offers improvements in medication packaging and design, prescription and health information and patient communication.[21]

Targets website describes the features of the ClearRx system to include:

18. For a printout of a poster of Principles of Universal Design go to the Center for Universal Design (http://www.design.ncsu.edu/cud/about_ud/udprinciples.htm)
19. Design Council Case Studies. OXO Good Grips: Design that everyone can use, online at http://www.design-council.org.uk/en/Case-Studies/All-Case-Studies/OXO-Good-Grips/
20. Bernard, S. The Perfect Prescription: How the pill bottle was remade—sensible. New York Magazine, online http://nymag.com/nymetro/health/features/11700/ accessed Apr. 15, 2007
21. "Target Introduces Innovation with Safety and Design for Guests", online at http://pressroom.target.com/pr/news/health-wellness/clearrx/clearrx-design.aspx, May 1, 2005.

1. Redesigned Bottle—The new shape, which can easily be gripped and opened.

2. Easy-to-Read Label—Designed for readability and ease of use, this label sits flat across the front panel of the bottle so the bottle does not have to be turned to read the pertinent information. Easy-to-read fonts and type make information clearer to identify. In addition, prescription information is reorganized with the most important information—including drug name and prescribing instructions—at the top of the label accompanied by doctor name and prescription number.

3. Removable Information Card—Tucked securely on the back of the bottle in a permanent sleeve, this newly created information card summarizes the most common uses and side effects associated with the medication. This innovative card is ideal for quick reference and includes reader-friendly fonts and more comprehensive text.

4. Color-Coded Rings—For multi-member households, color-coded rings on the neck of the bottle help clearly identify each person's medication at a glance.

5. Redesigned Warning Icons—Newly located on the flat, back surface of the ClearRx bottle, these redesigned icons make important medical warnings clearer and easier to understand.

Not only are business and young designers interested in designing for an aging population but one is now getting established older designers focusing on designing for their age group. Iconic architect and designer Michael Graves started to address ageing and disability issues after a 2003 sinus infection left him paralyzed from the waste down. He turned his whimsical style to designing bath safety equipment, mobility equipment, and aids to daily living. His use of lighter and brighter colors both functioned as important signifiers for product use for seniors with failing eyesight and as a way to move the products away a stereotypical hospital design aesthetic to that of home furniture that is meant to assist you.[22]

Alder and Graves are examples of designers developing products that meet the needs of the older adults and that don't reflect that, 'mechanistic, bulky, smells like a hospital look'. The problem is most products today are still focused on the function of the product at the expense of aesthetics and on the dysfunction of the user as opposed to the health of the user. The silver lining is the the ageing of the baby boomer demographic is starting to influence the design of products and it would be difficult to imagine them accepting the tennis ball solution that the pre–World War II generations have accepted. To what degree designs will change in the coming years is difficult to determine. It may involve some categories of products more than others. It may be determined by the

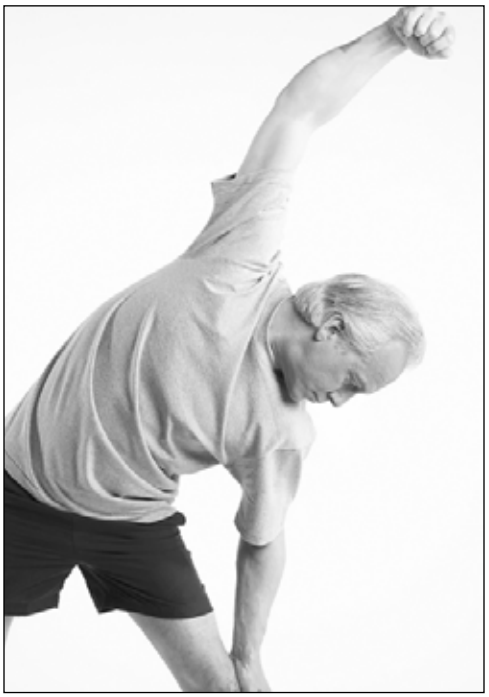
22. Perman, S. Michael Graves' new target: Medical devices. Business Week online, August 15, 2006. online at http://www.businessweek.com.

senior's health, age, income or even issues associated with who purchases the products. For example, is the senior purchasing them, is it family members, is it caregivers, or is it institutions? If other people are making those design and purchasing decisions for the elderly, and their decisions are reflecting ageist beliefs, then the products could keep reflecting society's negative prejudices.

The value of design

Responding to the needs of an aging population, whose growth and numbers will be unprecedented in human history, is one of the most important and continuing issues for our world. The designers voice needs to be heard in discussions about how best our society can respond to this demographic change.

If the objects and environments we use shape our perceptions of self and others perceptions and interactions with us, then design has the power to change that image and interaction. Design's value is in combating ageism by developing products that do not perpetuate society's prejudices and negative stereotypes. It is time to move away from that 'hospital smell' and 'cranky stupid and tacky' look of products to one that is healthier and positive.[23]



The value of design is not just in what we design but in how designers go about designing. So whether it is talking to seniors and school children to find out what they would like to see in an intergenerational space or talking to seniors on what would be a better way to be lifted out of a chair, the voice of the person using the product is part of the design process and solution. Today, designers don't design products they design better human experiences. Design with its human centered empathetic approach and its focus on problem solving and innovation has a significant role to play in the future of health care for our aging population.

Further information.

To hear Glen Hougan talk about design for an aging population listen to the CBC radio program Spark (http://www.cbc.ca/spark/2009/02/full-interview-glen-hougan-on-designing-for-seniors/)

To hear more about Glen Hougan and Margot Durlings work with the Lifting belt download episode 4 of the Life Changers (http://www.atlanticuniversities.ca/AbsPage.aspx?lang=1&siteid=1&id=1179)

23. ibid (Anderson, G. Frog design mind: product design for the elderly).

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