

Architecture Is the Panacea of Health

For two years I have worked as a server in a senior living community's dining department. Every day I watch nurse's struggle to provide seniors healthcare with outdated and ill-operating equipment. Senior's lives are prolonged, and their standard of living raised, but the accomplishing means are maladroit; the technology is a boon, but also a bane. And it will only become more difficult. The United States census bureau projects that the population of people age 65 and older in 2060 will be about 98.2 million (nearly one in four United States residents; Bureau). So as a college student studying architecture, I ponder these complexities and automatically begin to think of solutions. Imagine a space that works seamlessly with technology to observe and assist with the health of individuals. Fiction of a brave new world, right?

Except no it isn't. The integration of existing technologies into the design of residential architecture exists currently and is primed to preempt all other forms of health-care. Architecture is the magic bullet for health, enabling individuals — especially the elderly — to live fulfilled lives.

Design can directly influence behaviors. Alvar Aalto, a Finnish architect, is an exemplar to this subject. Aalto's most famous project, the Paimio Sanatorium, upon first glance appears to be a regular hospital, but is entirely different than the clinical, efficient, and sterile environments associated with hospitals. Opening in 1932, Aalto went to painstaking lengths to design even the furniture within the hospital himself. He envisioned a hospital that would feel more like a cruise ship than a place of infection. Thinking no one goes on a cruise to be sad and sick, he designed

the rooms with large windows, long interconnected balconies upon which beds could be wheeled out, reclined lounging chairs, and lavish dining rooms (Palmgren).

Unbeknownst to Aalto, his design choices hit perfectly on research decades ahead of his time. Modern knowledge recognizes that windows have a significant effect in the rate of recovery for patients, and the fresh air he wanted would have helped mitigate the pathogens in the tuberculosis patients being admitted. His hospital may not have been optimized to give the patients the best care fastest or be the most spatially efficient (he placed rooms only to one side of the corridors so every patient would all have the best view), but, at a time when tuberculosis was a death sentence, he gave patients his interpretation of maximum comfort.

That was the 1930's; now architects can design more intentionally with modern materials and techniques! Tools allow architects to design low-tech solutions for health using color, light, and composition. The art of Fung Shui is taught, materials and their properties are documented, and the safety and security of the construction worker and owner are enforced. And more and more technologies are entering the market, offering solutions through unorthodox mediums like, for instance, your mirror.

Implementable products raise the standard for preventative healthcare and run separate from intentional human interaction to diagnose potential health problems. Semeoticons' *Wize Mirror* uses 3D scanners, multispectral cameras, and gas sensors to measure user's general health level. Mirrors routinely perform facial recognition operations and compare them with past records to determine development of malignant skin cells (Semeoticons). Staying in the bathroom, many companies, notably *Toto*, have developed smart toilets far beyond customizable

bidets. Their *Intelligence Toilet II* can record and analyze weight, body mass index, blood pressure, menstruation cycle, and blood sugar levels from urine samples (Saenz). Even simpler, many public toilets employ a sensor that allow them to auto-flush, saving people from having to touch unsanitary handles. Healthcare is not exclusive to the bathroom however: an entire floorplan can become a monitoring device. *SensFloor* and *Scanalytics* sensors, installed under hardwood and carpeting, use algorithmic data processing to monitor gait (Solutions; Inc.). Processing of this data can detect such things as diabetes, Parkinson's, and stroke. It can additionally diagnose injury and detect falls.

To solve the future's problems, solutions today need to view challenges from a different angle. Such explicit design could add years onto an individual's life and predict deadly issues long before a noticeable symptoms or a scheduled doctors' visits. Although costly in installation and mentionable in electricity billing, the savings of an avoided medical emergency far offset initial cost, making them a worthwhile investment for everyone.

These techniques, through beneficial to all, would help the elderly most. They would be allowed to keep their autonomy and independence for longer, leading to a better quality of life. According to an article by Lifecare Funding, a healthy 78-year-old American living independently will have a life expectancy of about 15 years. They are healthy and able to live fulfilled alone. But, if that same individual suffers an injury that requires him to move into a long-term care facility, his life expectancy could be reduced by as much as 50 percent to 75 percent (Orestis).

Architecture is able design for both outcomes: extending the autonomous life and increasing the quality of assisted or hospice living. Aalto's example exhibits architecture's ability to affect people subconsciously and keep them safe and healthy, and technology being developed and on market right now secure and prolong individuals lives in the places they are now automatically.

And while personally it seems like not enough is being done to meet the needs of the aging population politically, architecture is prepared. The University of Kansas where I attend recently opened a program head by over 80 years of combined experience dedicated to teaching principles of healthcare architecture: hospitals, nursing homes, and retirement communities. The accredited program offers certification preparing students to be on the cutting edge of modern techniques.

Architecture is primed to meet the growing needs of a burgeoning elderly population. While other research and advancements have become wrapped up in cumbersome bureaucracy, enabling better lifestyles in more efficient housing has been the focus of architecture for nearly a century. Technology designed by architects is implemented seamlessly into daily routine to make living a healthy life simple. For now, nurses struggle to excel in outdated buildings with outdated equipment, but architecture is prepared and already making strides to ensure the wellbeing and happiness of those who inhabit its spaces for generations to come. Architecture is the panacea of health, and the answer to the growing issue of how to care for the elderly.

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