

Vita Longa, Ars Longa: Aging, Longevity Extension Technology and the Arts

Historically, artists have patrolled the borders of culture, alerting us to emerging developments and their cultural implications. Leonardo's 40-year history has been full of artists engaging technologies on the horizon that were only faintly grasped by the public. Here I focus on a development that promises to profoundly reshape our world and that cries out for more artistic attention: aging. While this is not a particular technology, it is an issue that emerges out of the interplay of many technologies and social structures.

My awareness of the urgency of this trend was stimulated by participation in the World Technology Network [1]. Believing in the power of serendipitous encounters, James Clarke, the director of this organization, brings together innovators in diverse fields such as medicine, business, biology, materials science, government, art, venture capital and academia in

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a yearly conference. One of the most recent conference's speakers, Ziv Navoth, director of the Verve futurist think tank [2], identified several themes as critical for business and government to consider in long-term planning, one of which was the changing demographics of aging [3]. It struck me that the arts have been strangely quiet on this theme.

Navoth noted that the combination of birth control and medical advances was radically altering the demographics of the developed world. For example, Italy and Japan's birthrates have shrunk below replacement rates, and Italy now has more people above the age of 65 than below the age of 20. Other countries will soon follow. Many countries face social-welfare crises because their systems are based on pay-as-you-go principles, with the shrinking younger generations expected to support the old. Many countries in the developing world still have the historical demographics of a high ratio of children to older people and relatively short life expectancy, although this begins to change as they develop.

Biological aging and longevity research will accelerate these trends even further. Researchers are making progress on several fronts to understand and perhaps slow basic processes of aging. For example, they have discovered that cells seem to have a natural limit to the number of divisions they can undergo. Investigators have had some success in delaying the aging and death that seems programmed into the cells. In one study, worms were made to live (healthily) 5 times their normal expectancy—the equivalent of 400 human years! Another line of inquiry has studied peoples who enjoy extraordinary longevity, such as mountain peoples of Peru and Asia. A key factor was found to be chronic under-

nourishment, and researchers are trying to understand the molecular processes sufficiently so that they can bring about the longevity without the caloric restriction. These techniques do not just elongate life; they seem to slow aging, with corresponding delay in disease and decay of capabilities.

How should the arts respond to these trends? Here are some questions to start thinking about:

- *The length and productivity of artists' life spans will be extended. What kind of art will 60–90-year-old artists produce? In traditional societies, elders were valued for their experience and wisdom. Often the old were the ones who dealt with spiritual matters. Historically, there are examples in art history of painters and sculptors remaining productive well into old age. In our change-oriented culture, however, novelty and technological innovation are highly valued and the knowledge of the aged is often viewed as obsolescent. Media and technological art is often valued for its attention to the most current technologies and cultural issues. Historically artists have drawn on the freshness of their youth as an engine of artistic response. Will aging artists function as they did in their youth, or in new ways that respond to age and experience?*
- *New practitioners may become active in the arts later in life. Early in life people often make career decisions based on economic security concerns and forgo pursuits in areas such as the arts or philosophy. It is possible that as people live longer they will have time to revisit these sacrificed interests. Buttressed by the security of success in career and family, they will feel free to indulge themselves. Erik Erikson, one of the major psychologists to theorize about aging, is famous for his characterization of the main challenge of old age as Integrity versus Despair. In part, integrity means finding satisfaction and peace in what one has accomplished; despair means focusing on regrets. The delay of aging means that people will have additional chances to pursue forsaken agendas. Ironically, these pursuits assume a concept of retirement; some theorists suggest that the combination of extended health and social welfare challenges may cause the concept of retirement to disappear.*
- *There may also be new audiences for art among these older populations. What kind of art will interest both new practitioners and new audiences? How will their previous experience and that of coming to their interest late shape their perspectives? What personal and cultural issues will be considered important? What new institutional arrangements might be necessary—for example art schools for those over 60, new degrees, new career paths?*
- *Artists focusing on the cultural implications of science and technology may find many new areas calling out for attention. Research on aging, disease, waning abilities, neurology and death will take on great cultural significance. Technologies of anti-aging intervention such as surgery, pharmacology, bionics and prosthetics will invite artistic reflection. Because these will be the enablers of the aging revolution, there will be some urgency.*
- *It is possible that demographic changes might not be so easy and benign as many might hope. It is assumed in contemporary society that the elderly will get out of the way while the next generation takes over business, government and cultural institutions. For example, advertising has been primarily aimed at the young as the most active economic targets. The old may not be so willing to make room. In the arts, curators, critics and successful artists may want to continue their privilege longer than they historically did. Cultural commentators in media and art have pointed to the importance of sociocultural categories as vehicles for understanding dominant practices and narratives—for example, gender, ethnicity and nationality. It may be that more attention will be required by the category of age.*
- *The situation might be complicated by geographic differences in age demographics. The developed world might become increasingly aged while the less economically developed world remains skewed toward youth. The developed countries will then need to import workers to do the jobs that require youth. To present day tensions between haves and have-nots, and between different ethnic groups, might be added the tension of the old versus the young. Art as an important source of cultural commentary would need to reflect this new tension.*

Technology and science are creating unprecedented changes in the human experience of aging. The results will be a challenge to both the old and the young. These changes are likewise both an opportunity and a challenge for the arts.

STEPHEN WILSON
Leonardo *International Co-Editor*
Art Department
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132, U.S.A.
E-mail: <infoarts@sfsu.edu>
Web: <<http://userwww.sfsu.edu/~swilson/>>

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