Why Gerontechnology?

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N. Charness, S. Czaja, A.D. Fisk, W. Rogers, Why Gerontechnology? Gerontechnology, 2001; 1(2): 85 - 87. Gerontechnology as a discipline is justified by the unique needs of older persons, market forces exploiting higher-income elderly, and societies wishing to assure a minimal dignified standard of living. The upcoming 2002 International Conference on Gerontechnology has the theme of 'Creative use of technology for better aging'. There the scientific community can join efforts to move closer to the goal articulated by the International Society for Gerontechnology: 'Designing technology and environment for independent living and social participation of older persons in good health, comfort, and safety'.

Key words: aging, gerontechnology, needs, market forces, standard of living, technology

The International Society for Gerontechnology (ISG) indicates on its web site, http://www.gerontechnology.org that its mission is in part: 'Designing technology and environment for independent living and social participation of older persons in good health, comfort, and safety'. This is indeed a noteworthy goal. But, playing devil's advocate for the moment, we wonder if we dropped the term 'older' would not designers be equally obligated to succeed in this mission? As one architect was reported to have said in response to the request to put in warm, comfortable flooring in a building because it was to be used by an older clientele: 'For whom should I make the flooring cold and hard?' This retort points to the crux of the issue for the legitimacy of gerontechnology as an independent discipline. Is design for older adults special, or is it the case that what works best for other segments of the population such as children or young adults, is also optimal for older adults?

Two possibilities immediately present themselves as justifications for gerontechnology: interactions between age and environmental conditions, and niche markets. In the first case, interactions, the research community might show, for instance, that older workers need more light than younger adults to show maximal efficiency in reading tasks[1]. Levels of luminance that are optimal for young adults (100 cd/m^2) are not necessarily best for older adults. Other research along these lines shows that we need to more fully understand the unique needs of older workers (e.g., working memory limits and other normative cognitive and perceptual changes) as these factors may interact with technology use[2]. There is also evidence that older adults have unique training needs[3]; such

needs need to be better understood so as to optimize older adults' interactions with technology. Such examples provide a powerful argument for gerontechnology as a stand-alone discipline. In the second case, market forces may dictate that products be designed for older consumers who have higher incomes, though the optimal design for them might also be best for less wealthy college students. A good example might be the introduction of electronic navigation systems into upper-end, expensive automobiles. Another would be the introduction of electronic displays into farm machinery. In the US, in the year 2000, approximately 42% of employed farmers were age 55+[4].

A third possible justification for gerontechnology as a discipline is that societies might choose to intervene in the lives of their aging populations to ensure adequate comfort and safety in order to assure a minimal dignified standard of living. If so, for interventions to succeed, the research community needs to provide input into the process and concentrating on older adults exclusively is quite justified. If there are positive spin-offs to other age groups, so much the better. In general, it is only very recently in history, as life expectancy has increased, that societies have chosen to intervene to assure future prospects for their populations. Can you imagine early civilizations allocating their resources to university educations for their young adult populations when the average life expectancy was only about 20 years of age (as was the case in Roman times)? It is only with twin advances in science and in societal wealth enabling striking increases in life expectancy that it even became conceivable to begin programs such as childhood inoculation for disease and universal public education. Even in the 21st century, these programs are by no means universal in the developing countries of the world.

However, in the latter two examples of large-scale interventions there was undoubtedly an underlying philosophy that permitted these programs to arise. In both cases, societies invest resources to assure that their citizens will survive into young adulthood and will be come sufficiently productive that all of society will eventually reap appropriate rewards at a future date. Such social programs are structured to ensure that people enter the paid labor force where they will either directly pay back (student loans for college in North America) this societal investment, or indirectly support others not in the labor force (via payroll taxes), thereby completing the virtuous investment cycle. Given the very long lives of citizenry in the developed countries (and increasingly in the developing countries) at this epoch in history, such a model may need to be re-examined and extended, particularly toward the notion of life-long education support.

The upcoming 2002 International Conference on Gerontechnology has the theme of 'Creative use of technology for better aging'. Our conference will be encompassing themes that span the challenges of adulthood such as: Work and Aging, Health Care (Telemedicine), Communication, Care giving, Mobility and Transportation, Life-long Learning, and Domotics (Smart Homes).

We need to consider interdisciplinary approaches to understand the technology needs of older adults. We need to understand that older users have unique capabilities, preferences, and experiences that may all contribute to their success (or lack thereof) in interacting with technologies in home, at work, and in their leisure activities. We, as gerontechnologists, need to be actively involved in the development of future technology. We invite you to share your efforts in gerontechnology at the conference in Miami Beach, Florida, November 9-12, 2002. There we can join efforts to move closer to the goal articulated by the International Society for Gerontechnology. We, the local organizing committee, and our esteemed International Scientific Advisory Committee (see below), hope you will take up this challenge.

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Register for the conference at
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