Karlsruher Institut für Technologie

The value of technologies: Setting Ageing and Assistive Technologies in comparison

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4th European Technology Assessment Conference,
4th -6th of November, Bratislava

Institute of Technology Assessment and Systems Analysis (ITAS)

Agenda

1. Ageing technologies – active agers or frail users?
2. Assistive technologies – enabling or disabling?
3. Ageing and Assistive technologies in comparison
4. Synthesis

1. Ageing technologies – active agers or frail users?

- High life expectancy: Framed as problem: “demographic crisis” of aging
- Role of technology: turning it “into a major ‘societal challenge’” which is to be addressed by technical solutions based on innovation, **but**:
  - Unredeemed return of investment
  - Unintended side effects
  - Unexpected social relations and emotions

- Co-construction of the social phenomenon of ageing and the inscribed role of technology, differentiation of “the technology” & “the age group”
  - 3rd age (“active ageing”) →Social media, household technologies, etc.
  - 4th age (chronic diseases, mulitmorbidities) → Care technologies

- Reflection on “Human complexity”
  - Personal attitudes towards technology
  - Context in which the technology is embedded (e.g. grade of frailty, dementia).
  - (National) surroundings
  - …

1. Ageing technologies – active agers or frail users?

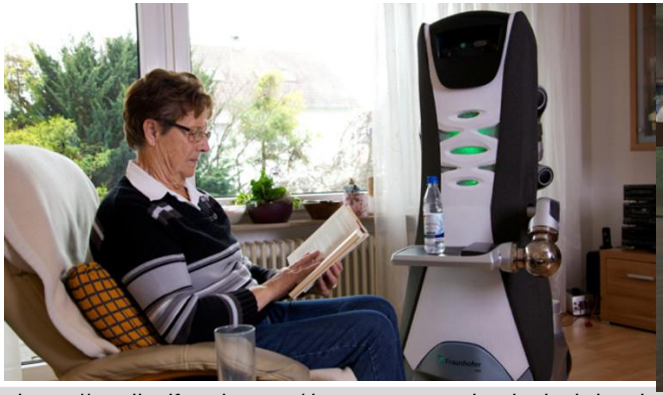
- “Ageing” technology
- Communication technology (3rd age)

http://arcticstartup.com/smart-ageing-prize-for-active-ageing/

https://dailycaring.com/amazon-echo-for-dementia-technology-for-seniors/

http://www.healthyageing.eu/steps/new-technologies

- Care technology (4th age)



https://medicalfuturist.com/the-greatest-technological-developments-for-the-elderly

https://www.mc-seniorenprodukte.de/burmeier-regia-pflegebett

2. Assistive technologies – enabling or disabling?

- Long tradition in disability studies
- Controversial debates on technologies, e.g.
  - Exoskeleton, Cochlea Implant, Bionic eye
  - → **What is normality? What is disability?**
  - Medical vs. mainstream technologies (high costs, innovation potential)
  - Stigma/ labelling through technologies
  - → **What are "normal technologies"? What are specific technologies?**

- Social understanding of disability (physical and virtual barriers)
- High acceptance & high relevance of technologies (also in recent regulation)
- Broad range of technologies in the field
  - Introduced – emerging
  - Type of disability
  - Context: Education, Employment, Everyday life
- "Enabling or disabling" → depends on the social, political, economic context

2. Assistive technologies – enabling or disabling?

- **Assistive technologies**
  - Blindness and visual impairment

http://static.financialexpress.com/pic/uploadedImages/mediumImages/M_Id_478158_SmartCane.jpg

http://static.financialexpress.com/pic/uploadedImages/mediumImages/M_Id_478158_SmartCane.jpg

  - Deafness and hearing impairment

http://www.uniquewatchguide.com/image-files/moneual-watch-for-deaf.jpg

https://importanceoftechnology.net/wp-content/uploads/2013/08/Impact-of-technology-for-deaf.jpg

  - ASD

http://education.ucdavis.edu/sites/main/files/imagecache/lightbox/Mundy_lab.JPG

https://msu.edu/user/cooksarli/ipad_proloquo2go.jpg

  - Mainstream technologies

https://www.zdnet.com/pictures/photos-disability-technology-goes-mainstream/6/

https://www.ft.com/content/ae91d600-8caf-11e7-9580-c651950d3672gy

3. Ageing and Assistive technologies in comparison

Similarities:

- **Body perspective**
  - **Prevalence rises with age ("ageing society"), e.g.**
    - **Blindness & visual impairment**
      - Reduced ability for visual acuity, blindness to severe/moderate visual impairment
      - Europe: ca. 3% persons with vision loss → 65% of visually impaired are older than 50 (WHO 2014)
    - **Deafness & hearing impairment**
      - Reduced ability to hear sounds, range from slight to profound
      - Globally: ca. 8% persons in high income regions → increase to ca. 50% by the age of 80 (Stevens et al. 2011)
- **Similar conceptual approaches towards discrimination**
  - Ageism
  - Ableism
- **Similar problem orientation**
  - Ethical perspective: What is normality? What is human? What is fair?
  - Social perspective: Better inclusion of needs: new forms of solidarity and integration (i.e. labour market, communities, social activities)
  - Technological perspective: User-sensitive & Value-based design and development
  - Economic perspective: Mainstream devices vs. medical/ care devices, market orientation of technologies

3. Ageing and Assistive technologies in comparison

Differences:

- **Group perspective**
  - The elderly don‘t want to be recognised as disabled….
  - The disabled are not necessarily elderly aged….
- **Life course perspective**
  - Users, who get a disability at old age face more barriers to ATs than disabled users who have familiarised themselves with ATs since childhood
  - Old age often coincides with multiple impairments that present a modified demand for ‘multifunctional’ ATs
- **Technology perspective**
  - Highly diverse range of technologies
  - Highly contextualised use of technologies (access, awareness,…)
  - Devices for the elderly: independent living & partly on workplace support, care
  - Devices for people with disabilities: education, employment, independent living
  - Nevertheless overlaps between both types of needs

4. Synthesis: Ageing and Assistive Technologies

- **Hypothesis**

  Values and connotations of technologies and their users are strongly dependent on the individual environment and context.

  Abstract values like autonomy (ageing) or inclusion (disability) are debated in the context of a society which is highly oriented towards the paradigm of a norm of the "ideal person".

  Currently deviations from this ideal should be "solved" by technologies.

  Debates in both fields should be rather directed much more towards social integration of the "other" and thus be open for diverse sets of living.

4. Social embeddedness of technological potentials

- Ageing vs. Assistive technologies – that is (not) the question
  - Technology as gate keeper for inclusion in society? Efforts are needed….
  - In both fields, technology is promoted as “solution” towards societal problems → but no “success”
    - Ageing: nursing crisis (Pflegenotstand)
    - Disability: high entrance barriers to the labour market
  - High normativity of “normality”

- Modified modes of technology development, implementation and use
  - Social embedding of technologies vs. technology fixes
  - Political strength to implement effective strategies, to evaluate, to change (mutual learning processes)
  - Recognition of diverse set of livings → Requires broad awareness processes, opening of minds, changes of cognitive attitudes
  - Priority of ethical imperatives according to the 'autonomy‘ or ‘inclusion’ of persons → precondition for the development of Ageing and Assistive technologies

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Thank you for your attention!

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