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Technology and ageing across the lifecourse.

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Introduction

We live in an information society – brought about through ubiquity of technology. But we are also living in an ageing society.

- What are the opportunities that the digital society brings to older people as they age
- What are the barriers to participation in the digital society.
- What are the economic/social costs and benefits of technology for older people

However, to understand older people's use of technology, we need to ask questions such as

- What does participation in the digital society 'mean' to older people – why do they participate (or don't)?
- What relevance does the digital society have to older people's lives?
- How do we ensure the digital society meets the desires, as well as needs of (differing generations of) older people

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Topics

Technology and technologisation, work and pre-retirement.

- Technology and the changing nature of work

Technology and post retirement – The third age and active ageing

- Active ageing
- Technogenarians
- A good life in later years

Technology and the fourth age;

- 'Ageing tsunami's'
- care technologies and the production of care
- Assistive technology – the UK context
- Assistive Technology use in practice

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Technology use and mid-life
Sustaining work and family life

Technological advancement is coinciding with an ageing population.

Technologisation and the nature of work– producing or destroying jobs?

- what effect will technologisation and automation have on different social groups (e.g. how might self driving cars affect gendered forms of employment)

What will employment for people pre-retirement look like. How will technology facilitate this?

- 2nd careers, remote working, the gig economy
- How will other financial demands of later life also shape work pre-retirement (e.g. sandwich generations, housing, pension provision & increasing retirement ages across western economies)

What are the implications of technology in terms of extending working life – is this enabling for older people or restricting the employment opportunities of younger generations?

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Technology use in the third age – successful and active ageing

Successful ageing (Rowe & Kahn 1987).

- Low probability of disease/disability; High cognitive and functional capacity (good health); Active engagement in life
- Technologically has prioritised medical interventions and technologies
- But successful ageing seen as individualistic, idealistic and prioritising physical health.

Active ageing (Foster & Walker 2014) "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age."

- A more holistic, lifecourse and socially conscious concept compared to 'successful ageing'.
- But still focuses too much on productivity

Key questions. How does technology contribute to active ageing. But also in what ways does technology drive' active ageing'. Is it about (just) labour productivity or about social and community participation. In other words, 'who is active ageing for'?

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Technogenarians

Joyce and Loe (2010b: 172) technogenarians 'individuals who create, use, and adapt technologies to negotiate health and illness in daily life' and that such creative engagement represents a resistance of the biomedicalisation of ageing and the figuration of older people as passive users of medical and care-related technologies.

Technology and active ageing; technogenarians

Older people's ability to be Technogenarians is shaped by economic, social and cultural capital

Economic capital – financial resources to easily access both consumer technology and structures underlying them

- Access to underlying technical structures, economic capital needed to access the online society.

Social capital – the social networks, relationships and social practices necessary to both technology awareness and adoption

- How does technology change, reinforce or erode social capital among 'third agers' (e.g. individualism vs communitarianism)

Cultural capital – social bonds or cultural awareness that encourage technology use

- e.g. reasons to use online resources (supporting hobbies, pastimes & leisure activities, volunteering).
- Class relationships which may encourage technology use (e.g. dispersed family, comfort with technology)
- Engaging with online economic or political sphere (e.g. online banking, online health services)

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'A good life in later years'

A project exploring how people in Scotland aged 50+ define and experience quality of life, and what a good life means to them.

Technology featured heavily in older people's descriptions of a good life.

- Technologies included transport, communication, ICT, household labour devices.

- Benefits of technologies – promoting communication and social networks

- Enabling work and civic participation

- Technology as a utility (internet banking, online grocery shopping)
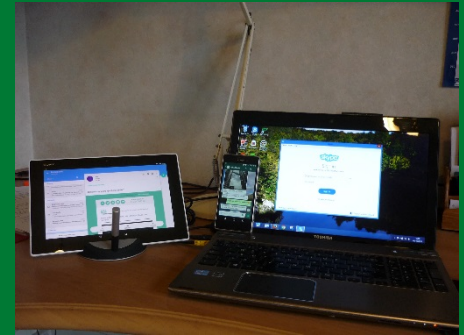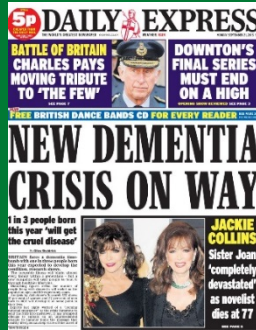

But issues of technology

- Equitable access to technology (e.g. mobile, internet). The notion of the internet as a utility was not available for many

- Technology and isolation from society as a consequence of being unable/refusing to use technology

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Technology use and the Fourth Age: managing ill health and decline

The 'demographic timebomb' or an 'ageing tsunami'

The fourth age as
- An inevitable decline into poor health (decline, dependency, decrepitude and death)
- An increasingly unmanageable burden for individuals and states
- Individual failure to look after health

BUT Technology increasingly framed as a/the solution to the problems of ageing and older age

- 'Telecare' & 'telehealth' – use of technology to provide care remotely

- But how far is this optimism warranted, and how much is it currently evidenced.

- At what point do technologies become 'coercive'? (Mort et al 2013).

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Technology and the fourth age

Technology put forward as one potential solution to the problems of the 'fourth age'

- Now – telecare, telehealth, mhealth, activity monitoring
- The Future. AI and autonomous care robots, companion robots, biometrics,

The discourse of independence – an unproblematised assumption that older people are better off, and want to remain in their own homes for as long as possible (Oldman 2002)

- Assumed to be wanted by all older people
- Reduces burdens on the state

Key question – what do we mean by 'independence', and how does technology facilitate this?

- Is 'independence' always the ideal?

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Assistive Technology, the UK Context

Assistive technologies (AT) are increasingly being 'mainstreamed' within UK care services

Based on assumptions that AT can;

- Reduce caregiver burden,

- Help sustain cognitive and functional abilities,

- Encourage 'ageing in place',

- Delay entry into residential or nursing care,

- Lead to significant efficiencies and significant cost-effectiveness savings

However we have a lack of knowledge about;

- how AT services can best be 'mainstreamed'

- How people use AT in their everyday practice

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The Whole System Demonstrator Trial (WSD)

Whole System Demonstrator studied uptake of telecare/telehealth in Diabetes, Heart Failure and Chronic Obstructive Pulmonary disease.

Initial headline findings suggested:

- Reductions in mortality
- Reductions in hospital & A&E admission

BUT later, full findings from WSD challenged headline findings

- Neither telecare or telehealth were cost effective. Telehealth had no impact on quality of life. Telecare did not reduce health/social care usage

Findings met with controversy

- The researchers argued Case for telecare/telehealth not proven & telecare/telehealth should not be mainstreamed within routine care
- Supporters of Telecare argued WSD was methodologically poor, RCT methodology is unable to measure effects of complex interventions, and that telehealth/teleccare should continue to have an important place in care

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How people use AT in practice;
The case for Bricolage

"The non conventional use of tools or methods designed and intended for a different use to address local and immediate needs" (Greenhalgh *et al* 2013)
Or
"making do with what is at hand"

Examples of Bricolage

- Using devices for different purposes than their original designs

- Combining AT with everyday technologies

- Using everyday technologies to complement or replicate AT

- Adapting devices 'on the fly'; to meet a person's needs, or as a person's needs change

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Bricolage, Technology and Dementia

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Challenges to Bricolage

- Formal AT's rarely enabled 'bricolage'

  - Closed systems – could not be adapted 'on the fly'

  - Lack of support to carers to act as 'bricoleurs'

  - Lack of wider information about AT to support its use

IV   The (telecare); have they been helpful at all?

P108   Oh what, since they put it in? Haven't seen them since. They haven't really, I've had a letter from them to say they're reviewed every year, or something. Haven't seem 'em since. (Person with dementia109)

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Bricolage in context

- **Bricolage provides a useful tool to explore the everyday use of AT in practice**
  - Combining AT with other technologies in the home
  - Showing up the arrangements required to put AT into practice

- **AT and AT services do not routinely enable 'bricolage' (Greenhalgh et al 2013)**
  - AT as closed systems not easily adapted to individual circumstance
  - AT 'dropped in' with little ongoing support as a person's needs change
  - Carers not supported in the bricoleur role

- **Future AT services as technology 'brokers'**
  - Technology services need to focus more on personalised, individualised technology provision.
  - How can AT services support the bricolage based use of technology
  - How can services help carers to act as bricoleurs

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Conclusions
Key questions for technology design and innovation

- How do we identify and make what older people want, not what we (as researchers, designers, software engineers) think they want?

- How might desires for technology change as the ageing population continues to change

- How can we best ensure older people are involved in identifying, designing and producing future generations of technologies?
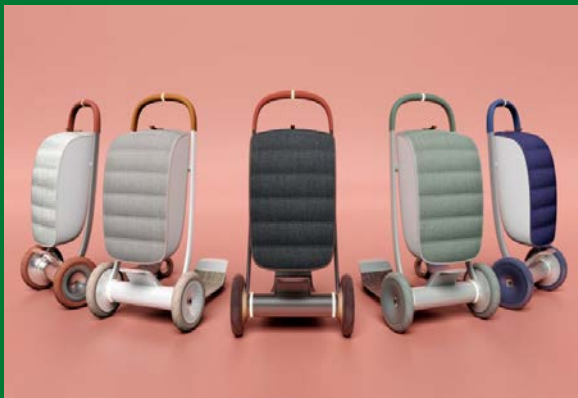
- How do we ensure technologies for older people are supported by appropriate infrastructure and resources (eg broadband infrastructure, trained health and social care professionals)

- How is technology development shaped by our economic or legislative frameworks, and in turn how does this inform what technologies are put in place to support older people

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