new dynamics of ageing
a cross-council research programme

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PROGRAMME

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news
Issue Four
From the Director

The final round of commissioning of the NDA Programme has just been completed with the addition of 12 new Programme Grants. The applications for this call were of a very high quality and many top-rated ones were not funded. Also striking was the large number of multidisciplinary proposals even though in this call they were not obligatory. As a result of the strong representation of the biological sciences and arts and humanities in this final round the Programme has achieved full coverage of all five of the participating Research Councils’ disciplines.

The NDA Programme has an innovative collaboration agreement with the Canadian Institute on Aging, which links Canadian scientists to NDA projects, and a second call for proposals is now open. Details of funded projects on page 22.

The NDA Programme organised a highly successful workshop in London, on 19/20 May, on Ageing in China and UK: A Policy and Research Exchange. The workshop was the follow-on from a similar one in Beijing in November 2008. Both workshops were funded by the Chinese Academy of Social Sciences, ESRC and RCUK. Presentations from the workshop are now on the NDA website (www.newdynamics.group.shef.ac.uk/). More details on page 23.

Finally, I would like to welcome our new Programme Secretary Alice Fowler who joined the team in June.

Alan Walker
Professor of Social Policy and Social Gerontology
The University of Sheffield

Ageing In China and UK: A Policy and Research Exchange,
London 19th and 20th May 2009

From left:
Zhang Juwei (CASS),
Alan Walker (NDA Director),
Yan Qingchun (CNCA)
A Combined Genetic and Small Molecule Approach to Studying the Role of the P38/MK2 Stress Signalling Pathway in a Human Premature Ageing Syndrome

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Introduction

One of the dynamics of ageing is an increased risk of a variety of age-related diseases such as Alzheimer’s, osteoporosis and diabetes. There is now an increasing realization that an improved understanding of the biology of the normal ageing process will give important insights into what is a major risk factor for these diseases – age itself, giving new opportunities for prevention or therapeutic intervention. Study of the rare human genetic disease called Werner Syndrome (WS), which is associated with premature ageing, provides a very powerful model system to study the biology of normal ageing. WS is associated with more rapid ageing at the cellular level, and in particular an acceleration of replicative senescence – the ageing of dividing cells.

Recent data has identified a potential role for a stress-signalling pathway in accelerated cell ageing in WS. This pathway, which involves p38 MAP kinase, also has a major role in the regulation of the production of proinflammatory molecules such as cytokines, high levels of which are associated with diseases such as osteoporosis and type II diabetes that are more common in WS patients. This is consistent with a wider hypothesis linking inflammation and ageing – so called ‘inflamm-ageing’. The role of p38 suggests this may be a useful therapeutic target in WS and normal ageing but its involvement as a major cellular signalling hub presents major obstacles to its therapeutic utility, such as side effects and toxicity. The downstream kinase MK2 may be a better therapeutic candidate as it has fewer downstream targets and is known to upregulate many inflammatory processes.

Although MK2 activation resulting from UV or genotoxic drugs can induce cellular senescence, there is as yet no formal evidence that MK2 plays a causal role in replicative or ‘stress-induced’ senescence via direct experimental intervention. If premature cell ageing underlies the premature ageing of WS individuals, the study of WS may aid in the understanding of not only how cellular senescence leads to in vivo human ageing, but also in the pathology of age-related inflammatory disease.

Aim

The aim of this project is to explore the role of MK2 in both replicative and ‘stress-induced’ senescence. The specific research questions that will be addressed are:

Is replicative senescence dependent upon MK2?
Is stress-induced senescence dependent upon MK2?
Is the premature senescence seen in WS cells dependent upon MK2?

What is the ethical and regulatory framework of future human clinical trials? The ethical dimension of ‘anti-ageing’ science has mainly been focussed on cosmetic and lifestyle anti-ageing therapies, rather than anti-ageing science directed at understanding the complex effects of ageing itself as a contributory factor in illness in later life. A key issue to be explored is the extent to which the degenerations and frailties of later life are a ‘normal’ part of human life and development, and not a disease as such. As this work may well be a prelude to the development of therapeutics for an ageing-related disorder, we aim to explore the ethical and regulatory framework of future human clinical trials.

Research methods

A combined genetic and small molecule approach: There is no perfect way to modulate cellular signalling through MK2 and thus delineate its role in premature ageing. Thus we will adopt a combined genetic and small approach, used successfully in our previous studies towards the role of p38 MAP kinase in accelerated cellular senescence.
A chemical toolkit of MK2 inhibitors: The realization that MK2 may be a safer drug target has led to much recent activity by pharma to find small molecule MK2 inhibitors as therapeutic agents against chronic inflammatory diseases. These make for an ideal toolkit to establish the role of MK2 in accelerated ageing and, as not commercially available, will be prepared in our chemical laboratories.

A genetic toolkit of MK2 constructs: A series of dominant negative (DN-MK2) and constitutively active (CA-MK2) MK2 genetic constructs are required. For lifespan experiments retroviral transduction of kinase constructs will be used to generate stable integrants. For short-term transduction, adenoviral constructs will be used as these have a high measure of infection, infect most cells in a culture (including non-dividing cells), do not require selection, and thus will result in sufficient cells for analysis.

At the end of the project we will have a greater understanding of the role of the MK2 pathway in normal and WS cell ageing, identified drugs that may form the basis of possible therapeutics for a progeroid syndrome, and perhaps in normal human ageing, and formulated a degree of understanding of the ethical impact of ‘real’ anti-ageing medicine. As MK2 plays a role in inflammatory disease, and because senescence and inflamm-ageing have both been postulated as contributing to normal ageing, irrespective of the relative contribution of the two mechanisms to the WS phenotype, this syndrome is likely to provide important insights into the mechanism of ageing in normal individuals.

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Ages and Stages: The Place of Theatre in Representations and Recollections of Ageing

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Introduction

Contemporary gerontology has highlighted the value of engaging older people in a variety of artistic activities, and the importance of the arts in constructing, perpetuating and challenging models and stereotypes of older people and the ageing process. Simultaneously, literary and cultural scholars have been increasingly interested in representations of ageing and the artistic output of older people although, to date, there have been few UK studies that have brought these areas of scholarly enquiry together. The theatre is a particularly fruitful context for such investigations since it has historically been a cultural arena in which older people are particularly active participants, as audience members, employees and volunteers.

The location for this project is the Potteries, North Staffordshire: an area with a long history of heavy industry (ceramics, coal and steel) that, over the past fifty years, has undergone considerable social and economic change and decline. Local cultural institutions have both reflected and reconstructed these changes. In particular, the award-winning New Victoria Theatre pioneered a distinctive form of ‘social documentary theatre’ under artistic director Peter Cheeseman. These documentaries chart social, economic and political changes in the Potteries, reflect the community’s self-image at various points in recent history, and illustrate the roles and positions of different generations within the community.

Aims

Through the lens of older people’s recollections and involvements in a particular place (The Potteries), linked with a particular artistic institution and its ground-breaking social documentary work (the New Victoria Theatre), and from the 1960s to the present day, we aim to explore how people, place and theatre come together to co-construct, represent and reflect on ageing and old age within the continuing struggles of this unique industrial community. Specifically the project asks:
How has age and ageing been constructed, represented and understood in the Victoria Theatre’s social documentaries from the 1960s to the present day?

How have local older people been involved in the Victoria Theatre as a cultural institution since its creation; what part has it played in constructing individual and community identities; and what role has it had in creating and preserving community memory?

What is the relationship between older people’s involvement in the theatre (as sources for the social documentaries; as volunteers; as ‘actors’; as audience members), and continuing social engagement in later life?

What are the practical and policy implications for involving the theatre, and the arts in general, in promoting active ageing and intergenerational understanding?

Research design & methods

The project will run from October 2009 to July 2012. It will employ a mixed method approach organised around three interrelated and complementary strands: Representation, Recollection and Performance.

Strand 1 explores historical representations of ageing through detailed literary and cultural analyses of materials held in the New Victoria Theatre Archive. Strand 2 focuses on recollections and contemporary representations of ageing through qualitative interview work with four groups of people who are now old and were: (i) sources for the Vic’s ground-breaking social documentaries; (ii) volunteers with the theatre; (iii) audience members throughout their lives; (iv) actors and others who made their lives in the area and continue to be part of the local community. Material drawn from Strands 1 and 2 will then be used in Strand 3 to work with the Youth Theatre and older people to create a ‘new’ social documentary performance. The performance, together with an exhibition and a range of associated educational materials and outreach activities, will also be evaluated.

Outcomes

Supported by an Advisory Group, this project is designed to have practical, cultural and scholarly outcomes and outputs addressed to different, and overlapping, audiences. These will include:

- A new social documentary performance and associated exhibition designed to stimulate ongoing community and academic debate and discussion about the ‘new dynamics of ageing’.
- A range of innovative materials and associated workshops for practitioners, primary and secondary school teachers, and other individuals and organisations wanting to engage in similar work.
- Policy guidance/policy briefs and policy workshops targeted at those responsible for local, regional and national policy-making initiatives designed to improve the quality of older people’s lives and enhance community cohesion.
- Contributions to both disciplinary and interdisciplinary knowledge in relation to theory, methodology and the substantive issues addressed by the research.
- A major international, interdisciplinary conference on the theme of ‘Theatre, Ageing and Community Memory’ to take place towards the end of the final year.
- The training of postgraduate and postdoctoral scholars in interdisciplinary and collaborative ageing research.
Towards Understanding the Biological Drivers of Cellular Ageing

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Introduction

• Biological ageing results in decreased ability of the body’s cells to proliferate and renew damaged tissues. This failure of cell division – replicative senescence – leads to loss of tissue and organ function, and the increased frailty characteristic of the oldest old. Since many factors are thought to contribute to this loss of function, it is hard to dissect any individual causes that represent the key biological drivers of ageing.

• A premature ageing syndrome, Werner’s Syndrome (WS), in which patients show many normal features of ageing but in an accelerated manner, provides an excellent model for studying normal ageing in a simplified biological system, as mutation of a single gene (WRN) leads to a very wide range of ageing characteristics: loss of WRN is in itself a driver of ageing.

• We will exploit this experimentally by removing WRN from human cells in culture and assessing the degree of cellular ageing in terms of cell size, shape, ability to divide and to maintain the cellular DNA (genes and regions that regulate gene activity).

• A comparison of cells in which WRN is normal and those in which its activity has been blocked experimentally will be carried out to determine which proteins are elevated and which diminished or modified in ageing cells.

• Proteins identified as having a causative role in driving ageing present good targets for inhibitory drugs to prevent or attenuate loss of cell function, while proteins that are shown to decrease on ageing may highlight alternative therapeutic strategies necessary to maintain function in old age.

Aims and research methods

The overall aim of this project is to identify proteins associated with, and causative in, cellular ageing. The following are the objectives of the three experimental strategies:

• Develop tools to induce cell senescence by regulated loss of WRN helicase/exonuclease: We will generate molecular tools including miRNA for regulated knockdown of WRN in stably transfected cells. This will provide isogenic cells lines that differ initially only in terms of WRN expression.

• Determine senescent phenotype upon miRNA-WRN expression: We will assess key phenotypes of senescent cells following WRN knockdown to verify that the experimental treatment is robust and reproducible in causing cellular senescence in vitro.

• Conduct proteomic comparison of miRNA-WRN induced senescence vs non-senescent cells: Heavy isotope amino acid labelling will be used followed by proteomic analysis of senescent and non-senescent isogenic cells to assess differences in protein levels and modification following experimentally induced senescence.

Outcomes

• Discovery and documentation (including publication in peer-reviewed journals) of cellular and proteomic differences in senescence consequent on WRN knockdown, which will hugely increase our understanding of the WRN-related ageing phenotype, and support knowledge-based research of normal ageing.

• A system for looking at the senescent proteome in vitro, that can be disseminated as a validated tool to other researchers in the field.

• Use of this system as a tool for high-throughput analyses of possible inhibitor molecules which may be used to inform future drug and therapy trials both for WS and associated disease symptoms, and to increase healthy ageing.

• Strengthened links with the UK and international ageing research community and also the wider public (current and future end-users).
Promoting Social Engagement and Well-Being in Older People through Community Supported Participation in Musical Activities

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Introduction
This research will explore the role of music in older people’s lives and how participation in making music, particularly in community settings, can enhance their social, emotional and cognitive well-being. It will focus on the reciprocal processes by which personal attributes of participants in music making interact with contextual factors to impact upon the benefits that older people derive from music-making. The research will comprise three case studies, the Sage, Gateshead, the Connect Programme of the Guildhall School of Music, and Westminster Adult Education Service, which each offer a variety of musical activities to older people. In each case of study a large sample of older people (up to 500), some of whom have recently begun musical activities (novices) and others who are more experienced, will be recruited to complete questionnaires and psychological needs scales related to autonomy, competence and relatedness before and after a substantial period of active engagement with music. Data collection will also include in depth interviews with a representative sample of participants, observations of musical activities and focus group interviews following the observations, and interviews with the musicians facilitating or teaching the activities.

Background
Although there is evidence that music can provide a source of enhanced social cohesion, enjoyment, personal development and empowerment, there has been little research exploring the potential for music-making to make a significant contribution to the quality of life of older people. Studies to date have been limited in scope with investigations of musical participation involving very small samples that have not been representative of the ethnic and socio-cultural diversity found amongst the UK population of older people, and the research has been restricted to a few types of musical activities (e.g. choir). Little of the research has been directly concerned with the learning and teaching processes involved in the music-making nor has it investigated the potential impact the relationship between older music participants and their teachers or facilitators may have on outcomes.

Aims
The overall aim of this project is to investigate the role that participation in creative musical activities has in the lives of older people, the extent to which this may impact upon their social, emotional and cognitive well-being, and the particular processes through which this occurs. The specific research questions are:

• What is the role of music-making in the lives of older people?
• Does participation in musical activities enhance the well-being of older people? If so, what are the particular processes which facilitate this?
• Are there wider benefits to families and/or residential communities when older people engage in music-making?

Sub-questions:
• What individual factors (gender, age, musical background, educational history, ethnicity, socio-economic status) determine decisions to engage in musical activities and what are the obstacles to attendance?
• What contextual factors impact on the quality and outcomes of active musical engagement (intergenerational participation, qualifications and experience of the musician teachers/facilitators, the nature and quality of the teaching/facilitating strategies adopted, nature of the interpersonal interactions)?
• What musical factors impact on the quality and outcomes of active musical engagement (genre, instrumental/vocal, creative/reproductive, small/large group, music technology/acoustic instruments, performance context)?
Research design

The research will adopt a multi-methods approach through three community case studies. Each will include repeated and between-groups designs with in-depth studies of the individual experiences of those participating. Observations of various types of musical activity will focus on the processes involved in these that generate change. Where possible, control groups will be set up of individuals involved in activities other than music making.

Case study sites:

1. **The Sage, Gateshead**, where the weekly ‘Silver Programme’ actively involves 500 people over the age of 50 in an eclectic spread of music activities including singing of all kinds, steel pans, African drumming, guitars, recorder, folk ensemble, music theory, and samba.

2. **Connect project, Guildhall School of Music & Drama**, which runs community music projects with people of all ages in East London. ‘Connect’ music projects are distinctive in that their focus is on activities where participants create and perform music together, linking story-telling and reminiscing to creative music-making.

3. **Music Department of the Westminster Adult Education Service (WAES)** which offers a range of community music activities for older people. The WAES music programme caters for students at all levels of expertise. Courses in a range of musical genres are offered, specializing in singing, playing instruments, sound engineering and using sequencers, music theory and composing.

Beneficiaries of the research

Effective dissemination of the research findings amongst the practitioner community, agencies working with older people, the wider research community and policy-makers will ensure that the benefits of this research are wide-ranging and sustained:

- The research will identify how the potential benefits of participating in active music making can be enhanced to improve the outcomes in terms of wellbeing and increased personal engagement for those participating. The research will also identify barriers to participation and how these might be overcome. This, in the long term should lead to wider participation.

- The impact of participation in music for those in residential care will also be explored, including the benefits for the whole residential community. This will inform practice relating to musical activities in residential care homes.

- The evidence base provided by the research will enable policy makers to make informed decisions about the best and most effective ways to provide older people with access to musical activities and how to better focus investment in such services.

- Music providers, including community musicians, community music programmes, music departments in the adult and community learning sector and music organisations with a commitment to outreach activities will benefit from the enhanced knowledge this research will generate. This will enable the design of programmes which will have a significant impact.

- Charitable organisations and other agencies whose remit is to promote initiatives that contribute to sustained quality of life for older people, will benefit from the enhanced knowledge this research will generate.

- Researchers in the disciplines of arts and humanities, education and psychology will benefit from this research.
Outcomes

- Conferences at the Institute of Education and the Sage, Gateshead, will include live performances of some of the London-based musical groups participating in the project, workshops illustrating the most successful activities, and dissemination of the research findings.
- Information about the project will be handed out at performances of any of the groups participating in the research.
- The findings will be disseminated through a web-site including podcasts, leaflets, the media (press, radio and TV).
- In addition to the report to the ESRC, outputs will include academic and practitioner journal articles and presentations at academic and professional conferences. The findings will also be included in chapters in edited books relating to active ageing and to the psychology of music.
- The research will have considerable practical value for the development of policy and practice in relation to the provision of musical activities for older people at local and national level.

Synergistic Effects of Physical and Psychological Stress upon Immunosenescence

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Introduction

- For many older people the conversion from being a healthy older adult to one in frail physical or mental health can be sudden, with falls representing a key cause of increased morbidity and mortality. Almost 1 in 3 people over 65 will fall at least once a year. Hip fracture is a frequent consequence of a fall and is a catastrophic event that happens to approximately 86,000 older people in the UK each year. Fracture is associated with poor outcome, approximately one third of patients are dead at one year post fracture and one quarter enter institutionalisation at discharge. Few regain pre-fall levels of quality of life.
- It is well established that our immune system declines with age and post-operative chest infections are the major 6 month mortality risk factor in hip-fracture patients, with pneumonia the cause of death in 43% of patients. Physical trauma, such as a fall, is thus a major risk for progression to frailty in older people and reduced immunity is a key underlying frailty factor. If we are to improve quality of life for older people, understanding how falls and hip fractures can lead to frailty and how we might intervene to maintain health after hip fracture, is imperative.
- Depression is also associated with increased susceptibility to infectious disease, with reduced immune cell function. Furthermore, depression is present in 30% of hip fracture patients and symptoms of depression in patients with hip fracture hold considerable implications for prognosis. Depression has been associated with greater pain persistence, retarded recovery and higher mortality rates. Depression coincident with the physical trauma of hip fracture may therefore accelerate progression from health to frailty via a negative impact upon immunity.
• A key question that remains to be addressed, and which has great significance for the health and quality of life of older people after falls and hip fracture, is therefore whether depression and physical trauma synergise to accelerate ageing of the immune system.

• Finally, there is an important and often neglected additional factor that can influence how quickly and how well an older person recovers from illness, namely the beliefs and meanings (i.e. the illness representations) he/she attaches to the illness. There is evidence that minority cultural groups hold illness representations that differ in various respects from the majority in the UK. Studies of the perception of age-associated dementia amongst British people of Punjabi Indian origin has revealed that symptoms of dementia were thought to partly result from a lack of effort by the patient themselves. Extending such studies to consider attitudes to hip fracture will address this issue in a significant minority ethnic patient grouping in the UK.

**Aims**

The overall aim of this study is to determine whether ageing, physical stress (hip fracture) and psychological stress (depression) are key and interacting factors influencing immune frailty in older people.

It is also important to determine whether the negative cumulative effects of these stressors extend beyond immune frailty and lead to cognitive and physical frailty.

The study will additionally determine whether or not illness representations affect quality of life for hip fracture patients in a minority ethnic group.

**Research methods**

The study has a three year prospective case-control design with four groups of older females: 50 British white hip fracture patients with, or without depression; 30 British patients of Punjabi Indian ethnicity with hip fracture but no depression and 50 healthy older people. Patients will be assessed one and six months after hip fracture to determine the short and long term effects of the trauma.

To assess the combined impact of hip fracture and depression immunity: We will assess innate immune function and the immune risk phenotype in older adults with or without hip-fracture and with or without depression.

Examine the role of hormones: We will measure levels of stress hormones (cortisol; DHEAS) to determine their role in mediating the negative effects of depression and hip fracture upon immunity and wider aspects of frailty.

Examine the link between immune frailty and physical and mental frailty: A stress may also affect other aspects of frailty such as physical and mental frailty and these will be assessed at 6 months post-fracture.

Determine whether illness representations differ between hip fracture patients of British white and Punjabi Indian ethnicity: If minority ethnic groups hold different illness representations for hip-fracture this may affect their recovery from illness and this will therefore be determined in a pilot study as part of the overall project.

**Outcomes**

• Publications in peer-reviewed medical science journals, ensuring communication of the key findings of the project.

• An information pamphlet for health and social care professionals to ensure the key findings of the project with regard to the impact of depression on outcome for hip-fracture patients is communicated.

• Strengthened links with stakeholders and researchers nationally.

• An interdisciplinary research team able to take forward their findings on the impact of stress on health in old age.
Introduction

- Falls are a major problem in old age, and the majority of falls occur during stair descent. This is because the downward movement of the body has to be halted every time the foot hits the step and our ability to do this depends on many factors, including muscle strength, joint mobility and our sense of balance, all of which deteriorate with age.

- Older individuals may be unable to generate the muscle forces required to support the body on the upper step or to control the motion when landing on the lower step, especially if the step-rise is high. On the other hand, if the step-going is small (as is often the case in older buildings), the ball of the foot of the lead leg will be placed towards the front edge of the step during descent, risking a slip. Motor control and balance deteriorations with old age could amplify the problem and a systematic study of stepping errors and how they vary in younger and older participants as the rise and going are changed is required.

- One other approach for minimising the risks of falls is to improve the competence and confidence of the individual so that they can cope better with the demands of the built environment. Muscle strength and joint flexibility can be significantly improved by specific training at all ages, as can balance and motor skills. However, wide-scale training programmes may not translate into improvements in tasks such as stair descent and a more effective approach would be to design targeted training programmes based on individual specific needs.

Aims & objectives

The overall aim of this programme is to understand the role played in stepping performance by musculoskeletal and sensory functions and their deterioration with ageing and to find ways of improving the ability of older people to descend stairs. To achieve this, the specific objectives are:

- To quantify the impact that factors such as deteriorating muscle strength, joint flexibility, balance and motor control have on the ability to safely descend stairs in old age.

- To identify the optimum design of stairs for safe negotiation by elderly people.

- To determine the extent to which the identified biomechanical and physiological constraints on stair descent can be minimised with ‘tailor-made’ exercise interventions.

Research methods

- Three studies will address these points. **Study 1** will identify the contribution that biomechanical factors such as muscle strength and range of motion make to safe stair descent. **Study 2** will examine the design of stairs to see if changing the going and rise matches better the capabilities of elderly people and improves safety when they negotiate stairs. This study will also identify individuals who may have biomechanical limitations and those where motor control and coordination are the main problems. The final **Study 3**, will take subjects, identified in Study 2 as having either biomechanical limitations or problems with balance and coordination, and provide appropriate training to see how effective this is and to what extent it might be used on a larger scale.

- Fifty older participants (>65 y), including individuals with a history of falls, and fifty younger participants (<40 y) will be tested on a staircase with adjustable step-going and step-rise, previously used by our consultant at the BRE.
For **Study 1**, the staircase will be implemented with force plates, and kinematic data will be recorded with an optoelectronic system. The measured joint angles and the calculated forces during the descent tasks will be compared with values of maximum force and maximum range of motion in isolated tests, so that indexes of muscle strength and joint mobility reserves can be quantified.

In **Study 2**, the optimum combination of step-rise and step-going will be identified from analysis of the kinematic data, quantifying stepping errors such as missteps, hesitations, use of handrail and glances at feet. Fear of falling will be assessed from questionnaire scores.

In **Study 3**, older individuals for whom an increased step-rise causes difficulties will be identified. They will be considered as having mainly musculoskeletal problems and they will undergo eight weeks of knee and ankle muscle strengthening and ankle joint flexibility. Older individuals with difficulties in reduced step-going values will be considered as having mainly motor control and balance problems and they will perform eight weeks of balance training and stair descents with corrective feedback and supervised practice. The two exercise groups will be re-tested on the BRE stairs after completion of their training using stair settings identified as ‘challenging’ when first tested to see whether the ‘tailor-made’ interventions were effective.

**Outcomes**

- At the end of this project we will be able to recommend the optimum combination of going to rise for older people. Such recommendations could become part of the general building regulations and have a significant impact on the physical safety and the confidence of older people.
- The outcome of Studies 1 and 2 will identify the relative importance of a range of biomechanical and physiological factors that adversely affect stepping performance. This information will inform the nature of the interventions outlined in Study 3.
- Study 3 will indicate the extent to which training for strength, flexibility, balance or motor skills can improve performance. This information is essential for any cost/benefit analysis of possible future large-scale population-based interventions.

### Contemporary Visual Art and Identity Construction – Wellbeing Among Older People

**Andrew Newman, Newcastle University**

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**Introduction**

This study aims to understand how the lives of older people can be improved by examining their use of contemporary visual art for identity construction practices. Contemporary visual art is being used because its often contested nature gives it particular power to prompt people to engage in identity construction processes through their imaginative and/or critical responses to it. Older people are the focus as research carried out for the Department for Culture, Media and Sport has demonstrated that engagement with the arts declines in the 64+ age group. The proposed research is a development of an exploratory study (funded by Arts Council England and Channel Five) undertaken by the applicants which looked at older people’s responses to the British Art Show 6 [http://archive.balticmill.com/index.php?itemid=40093](http://archive.balticmill.com/index.php?itemid=40093). This suggested how responses, both positive and negative, allowed them to take control over how they were perceived by others and so distinguish themselves in various ways. This appeared, in the preliminary study, to contribute to their perceptions of wellness.

The project will last for 25 months. The proposed methodology will involve 10 data collection points over 21 months and look at the responses of those who engage with contemporary art and those who do not. Data collection will involve interviews, focus groups and observations. The results of the research will feed into policy being developed by Arts Council England on quality of provision and into improved services for older people developed by museums, galleries and care agencies. Furthermore, this will increase our understanding of the consumption of the visual arts.
Aim

• To explore the relationships between older people’s engagement with contemporary visual art, identity construction and sense of wellbeing.

Objectives

• To determine how contemporary visual art is consumed as content for identity construction practices by older people.

• To determine the relationship between the abilities and resources that potentialise wellbeing and the social and intellectual opportunities provided by engagement with the contemporary art gallery.

• To identify individual, behavioural and social factors (which lead to inequality of opportunity) that determine the nature of older people’s engagement with contemporary visual art.

The project responds to issues which are central to the NDA programme, namely to identify:

• determinates that influence whether older people are included or excluded from community and civic life with regard to participation in the arts;

• individual and behavioural factors which determine decisions to engage in such activities and how these change over-time;

• the effects of personal history, support networks and cultural differences on perceptions of, and attitudes towards, autonomy and ability to maintain independence.

Outputs

• Reports to partners – Arts Council England, Equal Arts, Age Concern, BALTIC, NGCA

• Conference papers – Museums Association, Engage, American Association of Museums

• Publication in peer reviewed journals International Journal for Heritage Studies, Cultural Trends, International Journal for Cultural Studies – Trade journals such as Museums Journal

• Disseminate results – seminar at end of project/website – populated by results/data-sets etc.

Outcomes

• A greater understanding of the role of culture within the lives of older people

• Improved services for older people within the art gallery/museum/heritage sector

• Improved understanding of the needs of older people by art gallery/museum/heritage practitioners and policy makers
Introduction

- For people of all ages the kitchen can be the central hub of their home, a place of person-environment interaction that in many ways contextualises individual health and well-being. Both public and domestic kitchens have been studied by researchers from many disciplines: social scientists, biologists, food scientists, architects, designers and ergonomists. Yet, there is a lack of integrated multi-disciplinary research concerning kitchen living in later life and this person-environment interaction forms the focus of this project.

- The kitchen provides an essential laboratory for focusing on active ageing within the built environment addressing how autonomy and independence are promoted or hampered through personal history, current health & well-being, and design and technological intervention.

- For those whose remit is to design or adapt the built environment to meet the needs of an ageing population the kitchen alongside the bathroom is seen as an essential space for maintaining personal autonomy in both ‘ordinary’ and ‘supportive’ housing. Yet research shows that within contemporary supportive housing, kitchens in individual living can be challenging spaces with people commenting on problems with kitchen layout, reaching and bending, accessibility, ventilation, trouble with washing and drying clothes and unsatisfactory provision for recycling.

- There is a need for a more holistic view of how older people experience their contemporary kitchens, its links to other parts of the home, and the impact of the historical experience of kitchen living for different generations.

Aims & objectives

The overall aim of this project is to investigate historically and contemporarily the experience of the kitchen for people currently in their 60s, 70s, 80s and 90s living in a variety of ‘ordinary’ and ‘supportive’ housing in urban and rural locations in England. Cross-generational perspectives on specific life events will contribute a historical understanding to the use of the contemporary kitchen.

The objectives are to:

- Provide a historical understanding of the material, social and psychological environments of kitchen experience guided by life events.

- Provide a contemporary understanding of the current material, social and psychological environment of the kitchen examining role, function and design utilising visual techniques to understand activities.

- Consider person-environment fit through the juxtaposition of individual health and well-being, kitchen living and the potential for improving the kitchen to meet needs.

- Extend theoretical development in environmental gerontology through focused multidisciplinary research.

- Develop methodological systems for triangulation of data that are historical and contemporary; individual and contextual; qualitative and quantitative.

- Develop a resource of stories and experiences for older people, OTs and kitchen designers that provide an understanding of user requirements for inclusive kitchen design or adaptation.

- Establish a data bank concerning kitchen living in later life that can be archived.
Research methods

The research involves both secondary analysis of existing data sets and new empirical work. First of all the research will be grounded in secondary analysis of two existing data sets: the EPSRC EQUAL funded: ‘Profiling the Housing Stock for Older People: the transition from domesticity to care’ (1998-2002), and the ESRC funded: ‘Environment and Identity in Later Life’ (1999-2003). Then a new study of kitchen living will be carried out in England and will aim to include a purposive sample of 48 households (individual older people or couples; 12 from each age-group – 60s, 70s, 80s, 90s) living in the current range of domestic and supportive housing. Participants will live in both urban and rural/semi-rural locations.

Each participant will be involved in two periods of research within their own home. By carrying out two episodes of data collection at different times of the year the researchers will be able to consider the impact of seasonal difference on this environment e.g. impact on temperature, ventilation, light.

The research will adopt a mixed method approach involving two meetings with participants. Methods will be piloted with at least two participants.

The first meeting will include: short questionnaires to ascertain various background information; in-depth oral history interviews focusing on kitchen living across the life course; a review of architectural design layout and features of accommodation; and a reflection on kitchen experiences.

The second meeting will include: a review of the likes, dislikes and problems when using the current kitchen using an ergonomic checklist; a photographic record of the likes and dislikes of the kitchen environment; in-depth interviews focused on current kitchen usage – looking at access from the kitchen to other parts of the home and to the outside, food preparation, ventilation, storage, lighting, visual issues, re-cycling, support for animals; and recording and evaluation of a small number of tasks in the kitchen.

Outcomes

- A detailed report presenting an understanding of kitchen life for people as they get older for all those involved in the maintenance, adaptation and design of kitchens as well as policy-makers concerned with addressing housing needs in later life.
- An on-line design resource incorporating people’s stories and experiences of kitchen life that will aid the development of guidance to facilitate more inclusive kitchens and support transitions in later life.
- Guidance for health and social care professionals that will support therapeutic approaches to maintaining autonomy and independence in everyday living.
- Further academic development of the understanding of person-environment fit through multi-disciplinary research reported at conferences and through a wide range of publications.
- Archiving of oral history data concerning the experience of the kitchen throughout the life course.
Trajectories of Senescence Through Markov Models

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Introduction

• Operational definitions of ageing have proved elusive. It is presumed that there is a senescence state, correlated with but also distinct from calendar age, which drives the observable phenomena of ageing.

• New experimental techniques are making possible a much higher level of resolution in studying physiological and behavioural changes in standard model systems for ageing. These experiments are already yielding masses of data for which there are currently no statistical tools that are designed to tease the signal of progressive ageing from the momentary random fluctuations.

• Markov models are frequently applied in theoretical studies of ageing. There has been little opportunity to validate the applicability of a Markov model of ageing based on real data. Such validation – or demonstration of the inadequacy of such models – would have important ramifications on the theoretical side.

• Statistical methods are also lacking for effectively understanding the link between ageing, population growth, and environment for wild populations subject to environmental fluctuations. Some of the same statistical tools being developed here may be applicable to studying the evolution of ageing in natural populations.

Aim

The overall aim of this project is to improve statistical methodology for analysing longitudinal ageing experiments with simple model organisms.

Validated model and fitting method: We will prove appropriate theorems and carry out simulation studies which should show that Gaussian approximation should provide appropriate estimates of the parameters in these models. Should this planned approach turn out to be inadequate, we will work on developing new estimation methods, perhaps using new innovations in quasi-likelihood approaches.

Analysis of ongoing fruitfly experiments: Data are slowly coming in from the experiments in Mexico. We will use these to refine our models, particularly as regards the best way of including daily cycles and the most appropriate model of mortality. We will fit the data to our model, hopefully yielding validated estimates of the senescence process in these flies. These results will hopefully feed back into the design of later rounds of experiments, and also provide a jumping-off point for analysis of the variability and predictability of senescence in C. capitata and related species.

Other applications of Markov switching model methodology: There are other data sets and other problems connected with ageing, to which related methods could be applied. We will develop mathematical tools for analysing the evolution of ageing in populations subject to randomly fluctuating environments, and statistical tools for analysing age- and stage-structured data from wild populations. We also hope to analyse newly available data on progressive calcification in rats with kidney failure.

Research methods

Electronic Behavior Monitoring System: The apparatus has been designed and built at the Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE) in Puebla, Mexico. Each of the three EBMS is capable of monitoring nine individual flies arranged in a 3 x 3 cage configuration (i.e. 27 flies in total). The operational steps include the following: (1) A single newly-eclosed fly is placed in each of the 9 cages within a system; (2) the digitised images of these individual flies are captured on a micro-second scale over a predetermined interval (e.g. 10, 20; 30 seconds; 1, 2, 3 mins) and stored; (3) the system records, on a scale of micro-seconds, the activity and behaviour of individual fruit flies throughout their adult lives including movement in space; (4) position records are combined with multiple digital pictures to classify the fly’s behaviour (resting, moving in place, walking, flying, feeding, and drinking) and its location within the cage.
Markov switching model: Our plan is to adapt Markov switching models to these longitudinal data. We assume the existence of a hidden diffusion process specifying an implicit physiological 'age' or senescent condition for the organism. The random development of this hidden variable drives the levels of markovian switching rates which specify probabilities of transitions between behavioural states, the transitions that comprise the data. The hidden variable serves as the predictor variable in a log-odds model for the switching rates.

Gaussian approximation and Kalman filter: One of the key problems in fitting these models is the difficulty of computing likelihoods efficiently enough to be able to optimise them. We will use a Gaussian approximation to the Markov likelihood, which will enable us to apply efficient Kalman filter techniques to compute approximate likelihoods.

Semiparametric mortality modelling: One key open question concerns the functional form linking senescence state with mortality rate. We will develop techniques to model senescence as a proportional hazards factor, allowing us to dispense with preselected functional forms.

Outcomes
- Effective software for fitting longitudinal behavioural data with mortality to Markov switching models.
- Strengthened links with experimentalists and other statisticians in the US.
- Training a postdoctoral researcher in statistical and mathematical methods relevant to the study of ageing.

Dynamics of Cardiovascular Ageing

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Introduction
- The cardiovascular system, including the capillary system, is known to change during ageing. These changes are separate from the pathological effects of disease processes. Despite advances in the understanding of the cellular and molecular mechanisms of vascular ageing, functional studies of changes in blood flow over time, where multiple regulatory mechanisms act in combination, have been lacking.

- Functional studies in humans have previously not been possible due to the lack of available methodology for the analysis of the complex interactions involved in blood flow in the capillary bed, which is more complicated than flow in the much larger arteries. This type of functional study, in the ageing population, is important if we are to reach an understanding of the normal changes in microvascular function and the links between these changes and clinical pathology.

- Advances in sensor technology have opened up new approaches for non-invasive monitoring of the blood flow. Recordings of e.g. the electrocardiogram (ECG), respiration, blood pressure, and blood flow signals can be acquired and stored for later analysis by the application of a variety of sophisticated algorithms which we have generated. One important outcome has been an appreciation of the oscillatory nature of the blood flow through the capillaries and a detailed understanding of the components that contribute to this dynamic process.
**Aim**

The overall aim of this project is to use our non-invasive methods for the detailed study of blood flow to assess the ‘effective age’ of an individual’s vascular system. This will aid the diagnosis of age-related disease, and allow for assessment of the efficacy of any intervention strategies or clinical treatments.

In order to do this we need to generate a database of measurements from the young to the healthy old to define the normal age-related changes in these measurements.

The following are the sections of work that need to be undertaken:

- To measure the age-related changes in the oscillatory processes that make up the total oscillations in blood flow, particularly two components which are related to the cells lining the capillaries. To establish how these different processes interact and how these interactions change with age.

- To examine age-related changes in temperature control and oxygen transport in the blood.

**Research methods**

**Subjects**

The measurements to date have included healthy adults of all ages (16-82). Currently we have a dataset of 120 individuals but during this project we will increase this to at least 200 subjects to improve our statistics particularly in the very old range. The subject lies on bed and, once he/she is relaxed and comfortable, several different CVS signals are recorded simultaneously over a period of 30 minutes.

**Measuring the Cardiovascular Signals**

The measurements we will make include ECG, respiration, blood flow using Laser-Doppler Flowmetry system with iontophoresis, arterial blood pressure, skin temperature and levels of oxygen in the blood. All of these measurements are taken 400 times a second over the whole of the 30-minute measurement period.

**Analysis Tools**

The measurements taken reveal the variable nature of the functioning blood flow processes. Earlier, simpler analysis techniques commonly worked by ignoring any variability, an approach that inadvertently loses potentially valuable information. One of our major contributions to the field has been the development and/or application of new analysis methods, based around a branch of physics known as non-linear dynamics to take account of this variability. These methods will be applied to the analysis of the cardiovascular time series in each individual to provide an in-depth profile of the cardiovascular function in that individual. We will build all of these profiles into an analysis of how the profile changes through the healthy ageing process.

**Cultural and Environmental Impacts**

Within the UK dataset we will assess the influence of potential moderating variables such as gender, smoking history, and economic and social support levels. To assess possible national (cultural and/or environmental) variations in the parameters, we will compare our data-set with a large data-set already gathered in Slovenia.

**Outcomes**

- Identification of the cardiovascular parameters which are particularly associated with the ageing process.
- Provide a background data set against which to compare an individual’s ‘cardiovascular age’.
- Use the database.
- Provide a background data set against which to interrogate any changes in these profiles that relate to changes in healthcare practice or to cultural differences.
- Inform future research by providing evidence as to which of the parameters are the most influential in the age-related changes.
- Publications in the standard scientific journals, including physics, biological, specialised and general interest science journals.
Introduction

Since 1945, the field of fiction has been notable for the scale of its resistance to reductive, one-dimensional narratives and images of ageing which have dominated other forms of mass media. Older writers, older readers and the subject of ageing continue to retain important and privileged positions within the fiction industry.

Building on the cultural turn in social gerontology, 'Fiction and the Cultural Mediation of Ageing' will systematically research how older people, both as authors and readers, engage with representations of ageing. By focusing on the role this interaction plays in the shaping of self-image and social attitudes, the project team will produce an integrated analysis which will feed into direct public policy recommendations.

Aims and objectives

The primary aims of 'Fiction and the Cultural Mediation of Ageing' are to understand both how representations of ageing circulate in culture and society (impacting in complex ways upon social agency and policy) and how elective readership facilitates purposeful symbolic interaction with these representations, producing qualitative data through analysis of reader group diaries. The project will:

• investigate the complex processes of cultural exchange and social narrative involved in understanding the experience of ageing within the contemporary period. Research will concentrate on the field of fiction and its part in narratives of identity, agency and social norms. The investigators will analyse the changing cultural contours of ageing in contemporary Britain variously, including by exploring (i) changing fictional representations of ageing during the post-war period, (ii) the role of representation in reflecting and shaping social and personal attitudes towards ageing amongst older people, and society more generally, and, (iii) the changing social and ideological understanding of ageing, as revealed by a longitudinal qualitative social survey undertaken by Mass Observation, and the specific attitudes of readers and writers of fiction in reading groups as co-researchers.

• investigate elective readership as a form of social agency. A wide range of qualitative data will be collected from authors, readers and participants in the Mass-observation life-writing project. In particular, reading diaries will be kept by members of the reading groups which will be formed in association with the Third Age Trust. These diaries will provide direct evidence concerning how the practices and strategies of active reading process representations of ageing, and detail the participant’s views of social contexts in which ageing is configured. The critical discussion within these reading groups, led by moderators and involving on occasions participant observation from the three investigators and a Demos researcher, will enable the same practices and strategies to be applied to the representations that implicitly underline social policy issues concerning ageing and the elderly.

The three key objectives of the project are:

• To give voice to older people and produce an adaptable framework for user-group activity. By bringing together reading group members with writers and policy-makers in a series of public events, we will ensure that older people are heard and illustrate how a model of active readership can restore symbolic capital to the elderly and directly benefit society in general: a virtuous circle which could be repeated in many locations.

• To make the insights revealed by this study directly available to, and readily usable by, policy-makers at all levels of British society. Collaboration with the think tank Demos is central to this objective, guaranteeing high-profile presentation and dissemination of the research in the form of a substantial policy report that will be co-written by a Demos researcher and the project investigators.

• To create a lasting academic legacy for both the project itself and for this kind of social research within the Humanities. The findings and analytical models established by the project will be disseminated through a major international conference and a path-breaking critical monograph written by the three investigators. It will attempt to demonstrate that the rich inheritance of critical approaches possessed by the humanities integrated with those drawn from the social sciences can be expanded beyond traditional humanities interests to meet the complex social needs of 21st Century Britain.
Research methods

Reader Study: In collaboration with the Third Age Trust, seven volunteer reading groups will be set up under the jurisdiction of the Greater London Forum of University of the Third Age (U3A) districts. The U3A network provides active readers, across the retired age range, experienced in self-organised informal learning. Group coordinators will be recruited through existing U3A channels and will act as the principle point of contact between group members and the investigators. The groups will be supplied with a series of post-war and contemporary texts (such as David Lodge's Deaf Sentence and Barbara Pym's Quartet in Autumn) and their discussions, guided by the coordinator, will treat fictional representations as a stimulus to wider debate. Over the course of the study, discussions will range across many areas of policy concern, such as social isolation, dignity, disability and dependency. Group members will maintain anonymous reading diaries throughout exploring both their encounters with texts and the group discussions engendered by them. These will be collected at intervals and complemented with semi-structured interviews. Group members will be asked to consider themselves as co-researchers within the project and be invited to participate in events and the project conference, including live dialogue with authors.

Social Attitudes Study: This component of the project comprises both archival research and the commissioning of a new directive in autumn 2009 to the MO panel concerning books, book groups and representations of ageing (51% of respondents to the spring 2007 directive were over 60). In keeping with successful MO practice, the directive will be framed broadly to elicit a wide variety of discursive and critical reflections. Analysis of the resultant material will not only complement the reader study but be further comparable with the responses to earlier directives from the contemporary MO project (1981 to the present), enabling a longitudinal study of social attitudes to ageing and their relationship with cultural representations of ageing. This longitudinal research will draw on the replies to the questions concerning ageing issued first as part of the winter 1992 directive and then repeated again, in almost identical format, in autumn 2006. This material is particularly useful for showing generational shifts in the dating of the key changes of life and the understanding of what being old means to particular individuals. Initial analysis of this data and some of the material written in response to directives concerning issues of reading, writing and literacy practices in 1983, 1991, 1993 and 2003, will inform the drafting of the autumn 2009 directive. Subsequent detailed analysis of all this material and the incoming directive replies will play a crucial role in mapping the complex process of socio-cultural interaction that has shaped the experience of ageing within the post-war period.

Author Study: Authors will be addressed as active cultural and social agents operating in a field of cultural capital through a series of semi-structured interviews. Not only will the focus be to consider ageing as both a fictional engagement, and as part of their professional and life experiences, but the selected writers will be encouraged to consider their role as public intellectuals in debates wider than the literary. Given their potentially significant role as producers and social agents, such authors are recognized both formally and informally as contributors to the literary zeitgeist and, in a broader sense, to the symbolic economy within which frameworks of cultural value evolve. The study will draw upon these interviews together with associated literary-biographical and other data. It will feed into an integrated analysis including findings from the reader and Mass Observation studies, which will incorporate analysis of the role of authors in mediating and shaping the cultural field.

Outcomes

- An adaptable framework for user-group activity. A model for user-group activity, drawing on the good practice of the Third Age Trust and Mass Observation, will be established that can be replicated at different levels around the country as a form of participatory democracy and social engagement for all groups in society, but particularly for those across the retired age range.

- A policy report published by Demos. A Demos researcher will be actively involved with the project from the beginning: assisting with the training session for reader group coordinators, attending some of the reading group sessions, attending author-reader events and analyzing research findings before co-authoring a Demos report with the project investigators. This report will take a narrative approach to the project’s research findings and seek to show (a) how narrative tropes of older people drive policy, (b) how older people respond (critically and imaginatively) to these tropes and (c) how these stories provide a platform for rethinking policy. According to the usual Demos procedure, emergent findings will be publicly discussed with key stakeholders at a high-level policy seminar organised by Demos in central London in order to ensure maximum effectiveness for the final draft. Demos will also organize a public launch and facilitate media coverage for the finished report. The report will be available freely on the Demos website: comparable publications have achieved download rates in excess of 80,000.

- Academic publications and methodological legacy. The project investigators will co-author a socio-cultural study synthesizing the project’s innovative methodological mix. Offering a fresh model of engagement with post-war representations of ageing, this study will draw on the author interviews, reader study and Mass Observation research to produce a path-breaking publication within literary studies and social sciences. The monograph will be placed with a major academic publisher in order to secure a lasting academic legacy for the project and its research methods.

- Events series. During the life of the project the investigators will run a series of activities and events including author participation and an academic network seminar series, culminating in a major two-day conference, aimed at engaging participants, stakeholders and user groups.
Representing Self – Representing Ageing

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Introduction
The Second World Assembly on Ageing (2003) recognised a need to challenge stereotyped images of ageing and later life, particularly those related to older women. The use of visual methods as a means of allowing older women to articulate their experiences of ageing is one way of doing this but, to date, ordinary older women have not had the opportunity to either comment on, or create, their own images of ageing and old age.

This is an important omission given that the limited images that are popularly available either present older people as dependent and frail, or as ageing ‘positively’ and belying their physical age. Representations of ageing are particularly important to older women because their experiences of ageing (and ageism) are deeply rooted in appearance. In particular, the perception of their aged bodies makes them invisible in later life and can affect their social status and access to resources and opportunities.

Such invisibility is being explored and challenged by women both within popular culture and through academic work but still in limited ways: for example, television programmes uncritically buy into the anti-ageing industry and focus on heterosexual women. Biographical accounts have been written largely by white, middle class feminists or explore relatively specific aspects of the lived body.

Female artists have produced new images challenging conventional stereotypes of older women, and practitioners and researchers are increasingly using visual methods as a tool for personal empowerment and social critique. Such approaches offer a way forward for older women’s participation beyond their typical involvement in research as users of welfare services.

Aims
The study will ask how media and cultural representations of older people have conveyed ideas and expectations about age and gender.

The aims are to:
- enable older women drawn from different community settings to create their own images of ageing using a variety of visual and textual methods;
- explore the relationship between cultural and creative activity and later life well-being;
- reflect upon the contribution of visual ‘real life methods’ to participatory processes;
- demonstrate the contribution of arts and humanities to critical gerontology;
- enhance recognition, by policy makers and the wider public, of the authority, wisdom and productivity of older women.

Research methods
This initiative will bring together a team of researchers from the fields of later life studies and art therapy and with a shared interest in ageing and gender, with a cultural development agency which aims to use the transformative power of the arts to make a difference to people and places.

Three projects, each involving a 10-week block of workshops, will be run with a diverse range of older women who will be invited to: 1) explore media and cultural representations of older women; and 2) use videographic and photographic techniques to create their own images of ageing. The exact format of the workshops, and the ways in which older women’s experiences of participation will be captured, will be negotiated with participants.

Exhibitions of representations, produced during the projects and released with the agreement of individual participants, will be organised following the workshops. The invited audiences to the exhibitions (including participants, policy makers, local politicians, older people’s organisations, as well as members of the public) will have the opportunity to give their responses to the images via talking head videos.

Alongside the talking head videos, the initiative will be documented and evaluated using a variety of methods including observation, interviews (with the research team and participants), short questionnaires, self-reflective diaries, video diaries and sketch books.
Outcomes

The impact of this innovative project will be:

- Practical, in older women's production of visual materials providing powerful statements about women's experiences of ageing and equipping them with a novel means of challenging stereotyping.
- Methodological, in developing new approaches to participatory research with older people.
- Theoretical, in demonstrating the contribution methods developed in the arts can make to the discipline of social gerontology.
- Applied, in providing the policy-making arena with new ways of capturing needs and fostering well-being and social inclusion through longer-term interest in arts among older women and also audiences viewing their work.

The different visual and textual material generated through the projects will offer a mosaic of outputs including:

- images reproduced as postcards and banners and represented in local media, in addition to being shown at the exhibitions;
- a collaboratively produced website, including flicker images, and a DVD to be distributed to participants and relevant stakeholders;
- a consolidated research report on ageism, gender, the arts and social inclusion;
- academic journal articles and conference presentations in the fields of gerontology, the arts, visual and cultural studies, expressive therapies, sociology and social policy;
- presentations, articles and policy briefings for professionals and practitioners involved in arts and health projects within the region;
- the potential of producing a book to document the project will also be explored with participants.

CIHR Canada – UK NDA Research Initiative

The Programme has created an innovative research link with the Canadian Institute for Health Research whereby Canadian researchers can bid for CIHR funds in order to join NDA Projects as co-researchers. Four applications have been funded so far:

- **Working Late: Strategies to Enhance Productive and Healthy Environments for the Older Workforce – the Canadian Context**
  *Lan Gien, Memorial University of Newfoundland*
  This project is linked to the NDA project ‘Working Late: Strategies to Enhance Productive and Healthy Environments for the Older Workforce’, led by Cheryl Haslam, Loughborough University.

- **Developing and Validation of a Questionnaire to Measure the Psychological Impact of Assistive Technologies for Continence in Elderly Individuals**
  *Jeffrey Jutai, University of Ottawa*
  This project is linked to the NDA project ‘Tackling Ageing Continence Through Theory Tools and Technology TACT3’ led by Eleanor van den Heuvel, Brunel University.

- **Connectivity of Older Adults in Rural Communities: Health in Context**
  *Norah Keating, University of Alberta*
  This project is linked to the NDA project ‘Grey and Pleasant Land? An Interdisciplinary Exploration of the Connectivity of Older People in Rural Civic Society’ led by Catherine Hennessy, Plymouth University.

- **The Extension of the COACH Prompting System to Nutrition-Related Activities Among Older Adults**
  *Alex Mihailidis, University of Toronto*
  This project is linked to the NDA project ‘NANA: Novel Assessment of Nutrition and Ageing’ led by Arlene Astell, University of St Andrews.
Ageing Globally, Acting Locally

Researchers linked to five of the research projects that are being supported by the New Dynamics of Ageing Programme took part in an event held at Manchester Town Hall on 11th March 2009 as part of the Economic and Social Research Council’s annual Festival of Social Science. The day’s theme was ‘Ageing Globally, Acting Locally’ and was chosen to reflect the NDA programme’s emphasis on the global dynamics of ageing and the local contexts in which emerging issues are played out. The event was jointly organised by Manchester City Council’s Joint Health Unit and Keele University’s Centre for Social Gerontology. Around 70 delegates, drawn from policy, practice and the general public, engaged in a lively debate on issues linked to demographic change and its social and economic impacts in Britain and further afield. Speakers included Tom Scharf (Keele University), Janice Thompson (University of Bristol), Julia Shepherd (Manchester University), Roger Beech (Keele University), Liz Lloyd (University of Bristol) and Cheryl Haslam (Loughborough University). The event was hosted by Manchester City Council’s Joint Health Unit which is partnering Keele University in its NDA-funded study of older people’s engagement in community life in Manchester (see www.keele.ac.uk/callme/ for details).

Workshop on Ageing in China and the UK

The Programme organised a two-day event in London, on the 19/20th of May, on behalf of the ESRC, the Chinese Academy of Social Sciences and Research Councils UK on ageing in China and the UK. This followed a similar workshop in Beijing last October in which British and Chinese researchers exchanged state of the art knowledge and data. The London event consisted of a full day of joint work between the two groups of social scientists, aimed at developing common research agendas. The second day was a conference in which the Chinese participants presented the key policy challenges followed by commentaries from a British perspective. It was chaired by Sally Greengross and opened by the Parliamentary Under Secretary of State, Kay Andrews. The 70 participants represented a wide range of research user groups. Also active in the conference were members of the China National Committee on Ageing, The Chinese Government’s high level advisory committee. The conference and workshop programmes and presentations are on the NDA website.
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