

Tom Kirkwood

### **The End of Age: Why Everything about Ageing Is Changing**

Profile Books, London 2001

129 pp.

ISBN 18-61-97277-6

This short readable book encapsulates much of the current thinking about ageing. It is the product of this year's Reith Lectures given by Professor Tom Kirkwood on the subject of ageing as seen from the perspective of science. The prestigious Reith Lectures series are broadcast annually by the BBC with the express aim of increasing public understanding and encouraging debate in important contemporary issues. The choice of ageing was timely and Kirkwood did not waste the opportunity to raise the profile of a number of recent important developments and challenges.

The book is in three parts. The first section contains the text from the five lectures and is followed by a section covering recent scientific developments in more detail. The final section is a work of fiction – a short story exploring the implications of a world without ageing. The lectures provide a masterly overview of current ageing issues. 'Never in human history has a population so wilfully and deliberately defied nature by surviving as long as the present generation' provides a dramatic opening and the longevity revolution is a key theme throughout the series. The first lecture discusses the implications of increased life expectancy and skillfully draws out the tension within society between the celebration of saving lives and all-pervasive ageism.

Many misconceptions surround ageing and Kirkwood tackles these early on. He argues robustly that ageing is neither inevitable nor necessary and provides examples of species including the sea anemone and freshwater hydra that do not age. The idea that ageing has evolved to make way for future generations is also demolished. Historically humans rarely survived long enough to die from old age and looking across species it is clear that environmental causes of death far outweigh ageing in determining the life span. He suggests that we are programmed for survival rather than death and proposes that ongoing advances in understanding ageing are likely to arise from taking this perspective.

The link between sex and death is explored in the third lecture. Kirkwood first proposed the disposable soma theory of ageing in 1977 which states that at a species level, there has to be a trade-off between investment of finite resources in reproduction and repair. Perfect repair would avoid ageing but jeopardize reproduction and therefore ageing occurs because imperfect repair processes are associated with a gradual build-up of faults in the molecules, cells and organs of the body. He goes on to discuss intriguing possibilities about the evolution of the female menopause and why women live longer than men.

Making choices is the subject of the fourth lecture which broadly discusses the evidence of lifestyle interventions in ageing. The recommendations for healthy ageing will provide no surprise to people used to the mantra for healthy living – exercise and a balanced diet remain important in the later stages of life. But the evidence from animal models that ageing can be modified by nutritional intervention is a tantalizing finding and there is now emerging epidemiological evidence that human ageing may be modified by growth and diet in early life.

The lecture series ends with a call for new vision. Kirkwood argues that it is time to set goals for the longevity revolution and this applies not only to the scientific community but more importantly to society as a whole. For example he makes the salient observation that developments in information technology already have the potential to effect huge changes in older people's lives but require political will and broad-based support for implementation. Perhaps the major triumph of this book is the way in which it crosses these divides. I have long recognised the divide between research within the disciplines of gerontology and geriatric medicine, and from a wider perspective it is clear that there can be a gulf between scientific advance and public understanding. Tom Kirkwood has managed the impressive feat of stimulating important debate and educating us all.

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### **Falls in Older People: Risk Factors and Strategies for Prevention**

Cambridge University Press, Cambridge, 2001

249 pp.; GBP 29.95

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Falls in old people are finally getting the attention that they deserve. For too long they have been dismissed as a regrettable but inevitable result of growing old, despite the fact that they are the leading cause of mortality due to injury in people aged over 75 years in the UK. In England alone the annual cost to the NHS of hip fractures following falls is 1.7 billion GBP [1]. The cost of social care and long-term hospitalization accounts for half this sum [2], and even when there is no serious injury, it is common for falls to result in loss of confidence and fear of further falls leading to the person becoming housebound or institutionalized with attendant costs. About one third of all people over the age of 65 years fall each year [3], and the recognition of the enormity of the problem in personal and social terms has resulted in two important initiatives. In the UK falls have been included in the National Service Framework for older people

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with the requirement that older people who have fallen receive effective treatment and rehabilitation through a specialized falls service. Almost simultaneously there has been a joint report issued by the American and British Geriatrics Societies giving guidelines on the management and prevention of falls [4].

This official interest in falls has not happened out of the blue, and the last 20 years has seen a major growth in properly conducted research into the problem. The FICSIT studies in the United States were a major landmark in clarifying the beneficial effects of multidisciplinary intervention and exercise in the prevention of falls [5]. Studies in New Zealand have demonstrated that exercise alone prescribed by a physiotherapist is a valuable practical intervention for very old people living at home. We clearly recognize now that although falls are age related, they are not part of 'normal' ageing and are typically the result of multiple deficits affecting muscle strength, vision, somatosensory afferents, and central processing. One of the key investigators in the unraveling of the physiological abnormalities which contribute to postural instability has been Lord and his co-researchers in Sydney. In particular, he has alerted clinicians to the importance of visual contrast sensitivity, instead of simple visual acuity tests, and reduced peripheral sensation as significant risk factors for falls.

The surge of interest in falls has led to a widespread interest in setting up local falls clinics. Many patients may be managed by a nurse-led clinic which can refer onwards to the appropriate therapist, but specialist support is also required, particularly for patients with 'funny turns' where syncope is suspected. The arrival of this book is highly fortuitous, since it provides all the information in a very

handy and readable form that anyone setting up a falls clinic could wish for. The evidence base for various interventions is critically assessed with a useful number needed to treat comparison between different studies. Exercise and footwear are very helpfully discussed. There is an excellent five-point falls risk assessment checklist, and although it may be a trifle optimistic to expect a busy general practitioner to be testing low-contrast visual acuity and measuring reaction time, these are just the sort of sensitive tests that a specialist clinic should be using. This is a book written by experts who have first-hand experience of the academic and practical issues involved in identifying patients at risk and the interventions needed to prevent further falls. I strongly recommend it, not just to clinicians, but to nurses, physiotherapists, occupational therapists, podiatrists, and indeed anyone with a professional interest in this problem.

*P.W. Overstall, Hereford*

#### *References*

- 1 National Service Framework for Older People. London, Department of Health, 2001.
- 2 Dolan P, Torgerson DJ: The cost of treating osteoporotic fractures in the United Kingdom female population. *Osteoporos Int* 1998;8:611-617.
- 3 Swift CG: Falls in late life and their consequences - implementing effective services. *BMJ* 2001;322:855-857.
- 4 AGS Panel on Falls Prevention: Guideline for the prevention of falls in older persons. *J Am Geriatr Soc* 2001;49:664-672.
- 5 Province MA, Hadley EC, Hornbrook MC, Lipsitz LA, Miller JP, Mulrow CD, Ory MG, Sattin RW, Tinetti ME, Wolf SL: The effects of exercise on falls in elderly patients: A preplanned meta-analysis of the FICSIT Trials. *JAMA* 1995;273:1341-1347.