



## Acting your age? Sports science and the ageing body

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### ABSTRACT

The medicalisation of aging and old age constructs ageing as first and foremost a biomedical event and as a process of inevitable decline. In sports science and sports medicine the functional decrements normally associated with ageing are being addressed. There is evidence reported in the scientific literature suggesting that certain exercise interventions can 'reduc[e] or prevent [...] functional declines linked to secondary aging' [Goggin, N.L., and Morrow, J.R. Jr. (2001). "Physical Activity Behaviors of Older Adults." *Journal of Aging and Physical Activity* 9, 58–66.]. However a sociological critique is necessary. Whilst sports science seeks to position itself as a key player in the fight against ageing, it also opens the potential for the reconstruction of the ageing body as fit. However the evidence that exercise can fundamentally reshape older bodies is equivocal. A new frame is proposed which divorces exercise from anti-ageing purposes and uses the science of exercise to enable older people to recover a sense of physical competence as a creative pursuit in its own right.

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### Introduction

The medicalisation of ageing, described by [Estes and Binney \(1989\)](#) a few years ago, appears to have increased and evidence for this is the widespread attention it is receiving from a wide range of experts in ageing. Biologists with a special interest in ageing processes – biogerontologists – have been active in advocating an increased programme of research to uncover the fundamental processes of ageing, from which interventions aimed at relieving or even eliminating the decrements of ageing may emerge.

This close attention has reached out to other areas of the natural sciences, such as sports science and related areas of clinical medicine. According to the sports science literature, physical function in later life is amenable to improvement ([Mazzeo et al., 1998](#)). The difficulties of old age, the dependency arising out of ageing and measured by ADL/IADL instruments, falls, etc. can apparently be remedied. There is an extensive programme of research in sports medicine and sports science dedicated to the search for the fundamental biological, genetic and biomechanical processes which underpin the erosion of functional integrity as well as a range of narratives constructing

the positive relationship between exercise/physical activity and improvements in physical function. Physical activity is advocated as prevention against falls and the dependency arising out of failing function (e.g. scratching one's back, being able to bend over to put clothes in the washing machine or being able to carry bags) and carries the potential for improving quality of life. It is also advocated as *cure* for existing disabilities.

This science subscribes to the desirability of intervening to solve the problems of ageing and old age ([Haber, 2001/2](#)). Arguably exercise has become a key tool in the fight against ageing. Its benefits in later life are presented as incontrovertible and exercise *prescriptions* drawn from the scientific literature have been widely disseminated (see for instance [Nicolson, 2004](#), a report commissioned by the Scottish Executive to inform policy on health and exercise in later life in Scotland). Thus, the subjection of exercise to scientific scrutiny appears to represent an expansion of what [Katz \(1996\)](#) called the gerontological web, that is a reinforcement of the social construction of old age and ageing as associated with decline and as a problem to map out and solve via science.

There is a twist however as the claims that sports science can address the problems of ageing and old age and that the ageing body is fit and malleable cannot always be substantiated. A sociological analysis of the processes which have led to the

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consolidation of the truth of ageing via sports science can lead to an appreciation of the strengths and weaknesses of its anti-ageing credentials. Using Latour's (Latour & Woolgar, 1986) concept of the 'black box' and Merleau-Ponty's (1942) critique of the linear causal model used by scientific medicine to explain behaviour, I will show that the new truth of ageing which underpins the anti-ageing remit of sports science rests on shaky foundations. I will show that this anti-ageing project is tied up with a broader target of reducing the 'burden' of old age which in the end obviates the need to demonstrate conclusively and incontrovertibly the anti-ageing properties of sports science. I will then propose an alternative frame where the recommendations to exercise in later life are not tied up with the anti-ageing project but with the achievement of physical competence within a new set of meanings emphasising control and creativity as Gullette (2004) has already proposed. But first I turn to a brief review of the discursive underpinning of anti-ageing.

### The fight against biological ageing

Anti-ageing science is concerned with addressing the 'problems' of ageing. This needs some specification as what is at stake in this endeavour has been the object of debate, particularly around the status of disease in old age and the goal of life prolongation. Vincent (2006) has provided a very comprehensive analysis of the debate which has been conducted between anti-ageing practitioners and biogerontologists around the turn of this century. He has shown that the divergent approaches to anti-ageing which Fishman et al and Mykytyn in this volume have charted can be understood as four kinds of fights against ageing, each corresponding to four constructions of old age: 1. symptom alleviation, 2. life expectancy extension, 3. lifespan extension and 4. abolition. Symptom alleviation relates to discrete forms of intervention targeting the symptoms of ageing such as cosmetic products, prophylactics to keep the signs of ageing at bay and products designed to 'restore failing function to a youthful standard' (p 689). Life expectancy relates to the fight against the diseases of later life (cancers, respiratory illnesses, CVD), in the hope of improving life expectancy by up to six years in a fairly short period of time. Lifespan extension is hypothesised as achievable by intervening on the fundamental processes of ageing – the biological markers of old age. Lastly abolition relates to the possibility of reversing ageing itself.

These divergent ways of framing the 'problems' of ageing have their roots in the 19th Century. Katz (1996) has shown that with the emergence of biomedicine in that century the battle lines in understandings of ageing were placed firmly on the status of disease in ageing. Pre-modern physicians, who subscribed to a humoral framework, according to which disease is the result of imbalance in the humours, did not have a separate table of diseases in old age and they were largely non-interventionist. From the first few decades of the 19th Century, modern clinicians such as Charcot imposed a new framework for making sense of old age. The old body came to be seen as separate, endowed with signs of deterioration in the tissues and in function, or senescent. In conclusion to his analysis, Katz (1996: 44) said that, '[...] the aged medicalised body was neither diseased nor healthy, but both normal and pathological since both conditions in old age were expressions of the same physiological laws[...]. Within this framework, the point of intervention was to compensate for the problems

of normal or pathological changes, ie 'to maintain the symmetry between normality and pathology across all spheres of later life.'

Elie Metchnikoff, who was Charcot's successor, proposed a different interpretation of the relationship between old age and disease, which itself yielded a different approach to intervention. For Metchnikoff old age itself was a disease which leads to unhealthy physiology. The goal of intervention is a healthier, longer life through means of injections, potions and even surgery. The Franco-American physician, C.E. Brown Sequard, advocated the injection of animal sex glands to restore sexual function, the weakening of which, he had theorised, was linked to ageing (Haber, 2001/2). Brown Sequard's interventions did not work and did not afford him longevity but they were part of the discourse of old age (Katz, 1996; Tulle-Winton, 2000), according to which old age came to be seen as a problem, a manifestation of a wider societal, even moral, crisis (Cole, 1997), the target of anxiety, for which solutions had to be found.

These critical reviews, in Vincent's case of the contemporary situation and in Katz' of the 19th century debates, bring to our attention the consistent medicalisation and *biologisation* of ageing culminating in recent developments in the biology of ageing. Medicalisation and biologisation reduce old persons, that is people endowed with whole bodies, sentience, feelings, personalities and embedded in class, gender and cultural habitus, to a set of processes (biomechanical, molecular, genetic) of ever decreasing magnitude. They may also reinforce or at least mirror our antagonism to the old. They provide the only questions worth asking about ageing as illustrated by the following claim:

But it is not enough to live longer. Merely accruing additional years beyond the biblical lifespan of three score and 10 would be unwelcome if they just prolonged suffering from illness and infirmity. No, we want to live better, more youthful days while we're living longer. Diet, exercise and a lucky draw from the gene pool can take us only so far, however. That's where science comes in. (DiChristina, 2004:3)

This quote was found in a special issue of *Scientific American* dedicated to anti-ageing. The faith in science, as about to provide the solution to ageing, is also found in another set of legitimate claims about the biomedical problematisation of old age, in particular:

'[T]he case in favor of living longer – a moral [my emphasis] one to be sure – hardly needs to be made in detail.' (The President's Council on Bioethics, 2003).

Legitimate scientific endeavour positions itself as the only vehicle for achieving what is now assumed to be self-evident goals. They disagree on how to achieve the eradication of ageing and the prolongation of life but what unites most of the protagonists in the anti-ageing debate is that these are goals worth pursuing and the conviction that science can address them to the benefit of individuals and society (Klatz, 2001/2).

Sports science has positioned exercise as a key tool in the anti-ageing project. In fact sports science may perhaps be actively involved in the increased medicalisation of ageing by

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