A 2,000-year-old view of old age

Stanley M. Burstein and Caleb E. Finch reveal how a classic work by Greek physician Galen pioneered the idea of the ‘healthspan’.

How did the ancients see ageing? Many in the classical West saw old age as a disease. The prodigious Greek physician Galen thought otherwise. His treatise Hygiene, written around AD 175 and featuring the only surviving classical study of gerontology, framed ageing as a natural process that can be eased or even delayed through preventive measures such as diet. Thus the work, also known as De sanitate tuenda (‘On the preservation of health’), resonates to a startling degree with ideas today, both on care of the elderly (gerokomica in ancient Greek) and on models of ageing.

An eighteen-century mezzotint of a bust of Galen.

Galen pioneered the idea of the ‘healthspan’. An ambitious self-promoter, he revelled in anatomical demonstrations on animals, including gruesome public vivisections of live Barbary macaques to demonstrate the function of nerves. Given that breadth and depth, it’s not surprising that the six books of Hygiene read like a lecture series for advanced medical students. Galen assumes his readers know the range of existing treatises. But what surprises is how far Galen has broken with earlier thinkers on lifespan and ageing. In the sixth century BC, Athenian statesman Solon saw old age reductively, as the last of ten life stages, each seven years long. Galen’s more nuanced concept subdivided the final stage of his lifespan model into three phases of unspecified length, from active old age to senility. And he argued that the “causes of destruction” are present “innately from the beginning”.

Galen saw elder care as integral to the work of an educated doctor, and believed it should emphasize prevention. He noted that many ills of ageing — such as dizziness, eye inflammation and ear pain — can be delayed or managed to maximize quality of life. Galen’s ‘anti-ageing’ regime might be prescribed today: he advocated walking and moderate running, and noted the health benefits of a simple diet involving gruel, raw honey, vegetables and fowl. (Amusingly, he exhaustively details wines suitable for the elderly, advising them to stick to “yellow” wines, and to “always choose the thinnest in consistency”). He emphasized moderate treatments, avoiding strong purges and bloodletting but allowing gentle massage for kidney and bladder problems. Hygiene does not specifically discuss diseases of ageing, but in other books, such as To Thrasyboulos, Galen noted remarkably advanced treatments, such as surgical procedures for cataracts.

He mercilessly ridiculed an unnamed philosopher who claimed he could prolong life indefinitely — an ambition with echoes in our own era (see M. Baker Nature 517, 436–437; 2015). Death, Galen stressed, is inevitable as “the body deteriorates of itself”. But life could be prolonged. At a time when many died long before 70, he cites two cases of extreme age: Antiochus, a doctor still practising in his eighties, and the grammarian Telephus, who lived to nearly 100 with his faculties intact. Galen notes that their achievement exemplified the success of principles laid out in Hygiene; he believed that the techniques contributed to his own longevity (he purportedly lived to 80).

The trailblazing insights in Hygiene suffered a mixed fate after Galen’s death around AD 210. The treatise had become part of the Western medical curriculum by AD 500, and was translated into Arabic in the ninth century by Hunayn ibn Ishaq. However, Galen’s key principles on elder care were omitted in the brief summary of Hygiene in the 1025 The Canon of Medicine by Persian polymath Avicenna (Ibn Sina), and in successors such as John Floyer’s 1724 Medicina Gerokomica, or, The Galenic Art ofPreserving Old Men’s Healths. It is only relatively recently that Galen’s holistic approach to gerokomica as a road to optimizing the ‘healthspan’ — the length of time a person enjoys optimal health — has been rediscovered.

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