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Keeping Fit in Later Medieval England: Exercise for Man and Beast

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I

At the turn of the fourteenth century, John Mirfeld, a priest who lived in the precinct of St Bartholomew's priory, London, produced two substantial Latin encyclopaedias for use by the monastic community and staff of the nearby hospital. One was a collection of material concerning medicine and physical well-being, assembled specifically for those who lacked easy access to a specialist library, while the second comprised a *speculum*, or theological compilation devoted to the attainment of spiritual health.[1] That both volumes should contain texts of the popular advice manual known as the *regimen sanitatis* – one an abridged version of the other – reflects the symbiotic relationship that bound current ideas about human physiology inextricably with the teachings of the Church. On the basis that, once lost, a sound constitution would be hard, if not impossible, to recover, the *regimen* explained how six external factors known as 'non-naturals' might be managed to avoid illness and delay the ageing process.[2] As we shall see, diet, 'the first instrument of medicine', played a vital role in fending off disease. So too did a clean environment in which the air remained free of the pollutants and miasmas associated with plague, invigorating rather than infecting those who breathed it.[3] Stress, a source of both physical and spiritual sickness, could be relieved through recourse to activities that dispelled anger, depression, fear and other negative emotions ('accidents of the soul').[4] A judicious balance of

[1] Respectively British Library (hereafter cited as BL), Harley MS 3 (*Breviarium Bartholomei*) and Royal MS 7 F XI *(Florarium Bartholomei*). For the genesis of both, see F. M. Getz, *Medicine in the English Middle Ages* (Princeton, NJ, 1998), pp. 49–53.
[2] L. J. Rather, 'The six things non-natural: a note on the origins and fate of a doctrine and phrase', *Clio Medica*, 3 (1968), pp. 337–47; Marylin *Les régimes du santé au moyen-âge*, 2 vols (Rome, 2007).
[3] Carole Rawcliffe, 'A breath of fresh air: approaches to environmental health in late medieval urban communities', in Corrine Saunders, David Fuller and Jane Macnaughton (eds), *The Life of Breath in Literature, Culture and Medicine: Classical to Contemporary* (London, 2021), pp. 131–51.
[4] Elena Carrera, 'Anger and the mind–body connection in medieval and early modern medicine', in Elena Carrera (ed.), *Emotions and Health, 1200–1700* (Leiden, 2013), pp. 93–146; Stephen Pender, 'Subventing disease: anger, passions, and the non-naturals', in Jennifer C. Vaught (ed.), *Rhetorics*

exercise and rest ('movement and repose') and the hygiene of sleep also figured among the non-naturals, as did procedures such as phlebotomy and the use of preparations that could purge potentially dangerous matter from the body ('expulsion and repletion').[5]

In contrast to the relatively brief coverage accorded to 'movement and repose' in many contemporary vernacular texts, their extensive treatment in Mirfeld's work is as striking as the recommendations on offer. For although his *regimen* is far from original, being copied almost verbatim from Bernard Gordon's *Liber de conservatione vite humane* of 1308, it still seems disconcertingly modern.[6] His advice to his fellow clergy, whose calling and status prevented them from exercising in public, provides a lively example:

> Let such a man, therefore, have a stout rope, knotted at the end, hanging up in his chamber; and then, grasping the rope with both hands, let him raise himself up and remain in that position for a long time without touching the ground; then, holding the rope and running with it for as far as possible, let him jump in the air, turning himself round and round and strutting fiercely about. Or, if this pastime does not please him, let him hold in his hands a stone, weighing thirty pounds, in which a ring has been fixed, and carry it about frequently from one part of his dwelling to another; or let him hold this same stone up in the air for a long time before setting it down, or lift it to his neck, or between his hands … until he begins to tire.[7]

The image of the canons of St Bartholomew's or the brethren of the adjacent hospital 'working out' like today's athletes or bodybuilders is arresting, although anachronisms of this kind are generally best avoided. Some *regimina* may have highlighted the role of exercise as a means of strengthening the musculature, but the development of a perfectly honed and sculpted torso was never the intended aim of such activity.

This article begins by exploring the purpose and value of physical exercise as understood by the authors and readers of the advice literature that circulated widely in late medieval and early sixteenth-century England. Whereas other aspects of the *regimen*, most notably those dealing with diet and the emotions, have attracted considerable interest

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of Bodily Disease and Health in Medieval and Early Modern England (Farnham, 2010), pp. 193–218; Glending Olson, *Literature as Recreation in the Later Middle Ages* (Ithaca, NY, 1982), pp. 39–64.

[5] Karl H. Dannenfeldt, 'Sleep: theory and practice in the late Renaissance', *Journal of the History of Medicine and Allied Sciences*, 41/4 (1986), pp. 415–41; Sasha Handley, *Sleep in Early Modern England* (New Haven, CT, and London, 2016), pp. 18–38; Pedro Gil-Sotres, 'Derivation and revulsion: the theory and practice of medieval phlebotomy', in Luis García-Ballester, Roger French, Jon Arrizabalaga and Andrew Cunningham (eds), *Practical Medicine from Salerno to the Black Death* (Cambridge, 1994), pp. 110–55.

[6] For a discussion of Bernard Gordon's 'remarkable' recommendations on exercise, see Pedro Gil-Sotres, 'The regimens of health', in M. D. Grmek (ed.), *Western Medical Thought from Antiquity to the Middle Ages* (Cambridge, MA, 1998), pp. 291–318, at pp. 304–8; and on the author, Luke E. Demaitre, *Doctor Bernard Gordon: Professor and Practitioner* (Toronto, 1980).

[7] BL, Royal MS 7 F XI, fo. 129v. Parallel Latin and English texts may be found in Sir Percival Horton-Smith Hartley and H. R. Aldridge, *Johannes de Mirfeld: His Life and Works* (Cambridge, 1936), pp. 140–3.

on the part of medical and cultural historians, this fascinating topic has been largely neglected. As Pedro Gil-Sotres observed in his edition of the *regimen* produced in 1305–8 by Arnald of Villa Nova for King James II of Aragon, even historians of sport tend to move seamlessly from the Romans to the Italian Renaissance, ignoring the important place accorded to exercise in medieval writing on health.[8] Not much has changed, in an English context, at least, since this work appeared a quarter of a century ago.[9] A recent *History of Exercise Physiology* devotes only one of its 597 pages to the Middle Ages, skipping 'from Galen to the sixteenth-century' in just fourteen lines.[10] Yet exercise was clearly regarded as the linchpin of the regimen, enhancing the impact of each of the other non-naturals, while 'lengethynge of lyffe' and contributing directly to a sense of personal well-being.[11] Its principal function was to augment and redistribute the body's innate heat, which the Greek physician Galen of Pergamum (*d*. 216 ce) memorably described as 'Nature's primary instrument'.[12] But it also facilitated digestion and the elimination of waste, encouraged restorative sleep, promoted emotional welfare and transported the individual into fresh, exhilarating surroundings. It was, in short, essential for physical, emotional and *spiritual* health, being eloquently defined as:

> pure recreation of the soul and body when it is performed in the open; for then a man is exposed to wholesome air (*bono aeri*), and he rejoices in gazing far and near, and upon the sky, the sea and the green landscape; and he is therefore constrained to commend, to praise, and to magnify the Lord his God. Exercise therefore is good, since, in some measure, it unites a man to his Creator.[13]

Secondly, I will examine the ways in which knowledge of the hygienic benefits of exercise ceased to be the preserve of a narrow royal and aristocratic elite, being harnessed to suit the practical needs of specific groups of people, from the young to the old, the rich to the comparatively less affluent, and the laity to those clergy whose gymnastics were

[8] Pedro Gil-Sotres, 'La higiene medieval', in Luis García-Ballester and Michael R. McVaugh (eds), *Arnaldi de Villanova opera medica omnia, X.1: Regimen sanitatis ad regem Aragonum* (Granada, 1996), pp. 139–40. Vivian Nutton recognises 'a continuity of ideas' linking Renaissance writers on medical gymnastics with the classical past, yet assumes that medieval authorities paid only 'limited attention' to exercise: 'Les exercises et la santé: Hieronymus Mercurialis et la gymnastique medicale', in Jean Céard, Marie Madeleine Fontaine and Jean-Claude Margolin (eds), *Le corps a la Renaissance: Actes du XXX^e Colloque de Tours 1987* (Paris, 1990), pp. 295–308, at pp. 297–9.

[9] More has been written about the place of exercise in Italian *regimina*. See, for example, Frances Gage, 'Exercise for mind and body: Giulio Mancini, collecting, and the beholding of landscape painting in the seventeenth century', *Renaissance Quarterly*, 61/4 (2008), pp. 1167–1207; and, more recently, Sandra Cavallo and Tessa Storey, *Healthy Living in Late Renaissance Italy* (Oxford, 2013), pp. 145–78.

[10] Charles M. Tipton (ed.), *History of Exercise Physiology* (Champaign, IL, 2014).

[11] BL, Egerton MS 1995, fo. 67v.

[12] Margaret Tallmadge May (ed.), *Galen on the Usefulness of the Parts of the Body*, 2 vols (Ithaca, NY, 1968), II, p. 630.

[13] Horton-Smith Hartley and Aldridge, *Johannes de Mirfeld*, pp. 140–1; BL, Royal MS 7 F XI, fo. 129r.

performed modestly in private behind closed doors. From the late 1340s onward, all were, moreover, anxious to protect themselves against plague by adopting suitable regimes that would eliminate potentially lethal matter without opening the pores to miasmatic air. Not even animals could escape current assumptions about the importance of remaining active, while at the other extreme political theorists agreed that a brisk workout would purge the communal body of any idle and unproductive elements. As John Mirfeld pointed out in words which boded ill for that bane of the Tudor commonwealth, the sturdy but work-shy beggar: 'just as stagnant waters putrefy, and iron and every other metal rusts from insufficient usage, so is excessive repose the creator, nourisher, and multiplier of foul humours and the inducer of corruption in the limbs of the body and in the human blood'.[14]

II

The recommendations set out in medieval *regimina* drew upon entrenched and largely unquestioned assumptions about human physiology that derived from the work of Galen and other classical authorities.[15] Put simply, the effectiveness of all physical and mental processes depended in the first instance upon what one ate. Having been cooked in the oven of the stomach, partially digested food was conveyed to the liver, where it was converted into humoral matter: blood (hot and wet), phlegm (cold and wet), black bile (cold and dry) and yellow bile (hot and dry).[16] In a healthy individual any surplus would be excreted, leaving a slight imbalance in favour of the particular humour which determined their temperament.[17] A marked excess or deficiency of heat, cold, moisture or aridity could, however, prove devastating, leading to illness and eventual death if left uncorrected. From the liver, the blood and other humoral matter – which together constituted the natural spirit – were transported in the veins to the organs and extremities, providing the nourishment essential for survival and growth. Some of this blood passed directly to the heart, the source of warmth and thus of life itself. Flowing through the septum, from right to left, it then mingled with air from the lungs and entered the arterial system as a warm frothy substance, known appropriately as vital spirit, which carried heat to the rest of the body, thereby keeping it alive. The vital spirit that travelled to the brain was, according to Galen, filtered through a network at the top of the spinal cord called the *rete mirabile*. Once mixed with air from the nostrils this purified blood assumed the

[14] Horton-Smith Hartley and Aldridge, *Johannes de Mirfeld*, pp. 142–3; BL, Royal MS 7 F XI, fo. 129v.
[15] Gil-Sotres, 'Regimens of health', pp. 291–6.
[16] Carole Rawcliffe, 'The concept of health in late medieval society', in Simonetta Cavaciocchi (ed.), *Le interazioni fra economia e ambiente biologico nell' Europa preindustriale secc. XIII–XVIII* (Florence, 2010), pp. 317–34, at pp. 318–22.
[17] For the development of these ideas, see Noga Arikha, *Passions and Tempers: A History of the Humours* (New York, 2007).

power not only to activate the nervous system but also to mediate between sense perception and those parts of the brain responsible for imagination, thought, reason and memory.[18] Now converted into animal spirit, it quite literally *animated* both body and mind, influencing attitudes and behaviour in accordance with the individual's personal temperament. Whereas the natural spirit could be modified through diet, medication and procedures such as phlebotomy, the vital and animal spirits were more responsive to the quality of the air, the surrounding environment, scents, images and music.[19] Exercise, especially when undertaken in pleasant surroundings, played a crucial role in supporting each element of this complex holistic system.

In light of these beliefs, the timing as well as the type of physical activity involved was crucial. As many authorities explained, neither the heavy manual labour undertaken by workmen and artisans, such as carpenters and masons, nor the constant movement on foot or horseback of tradespeople and merchants fell within the specific remit of the *regimen sanitatis*.[20] The 'excercyse of lechecraft' described in its pages was voluntary and elective, being carefully planned to coincide with the third and final (intravenous) phase of the digestive process, when humoral matter spread outwards from the liver.[21] This, 'the most critical stage in the maintenance of life', was described by some physicians as a bonding process which 'glued' the component parts of the body together, while others believed that the digested fluids were converted into actual flesh.[22] A third explanation equated the 'final product' of digestion with radical moisture, the precious fuel that supported life, like oil burning in a lamp.[23] But all agreed that moderate exercise encouraged the absorption of nourishment, while promoting the expulsion through the open pores of any superfluous and potentially dangerous substances that could not

[18] E. R. Harvey, *The Inward Wits: Psychological Theory in the Middle Ages and the Renaissance* (Warburg Institute Surveys, 6; London, 1975), pp. 4–30; G. K. Paster, 'Nervous tension: networks of blood and spirit in the early modern body', in David Hillman and Carla Mazzio (eds), *The Body in Parts: Fantasies of Corporeality in Early Modern Europe* (London and New York, 1997), pp. 107–25, at pp. 112–16.

[19] Rawcliffe, 'Concept of health', pp. 322–7; Pender, 'Subventing disease'.

[20] Horton-Smith Hartley and Aldridge, *Johannes de Mirfeld*, pp. 138–9; *Here begynneth a lytell treatyse called the gouernall of helthe with ye medecyne of ye stomacke* (London, [1506]), STC (2nd edn)/12139, sig. A iij. Soldiers were another notable exception, whose well-being was addressed in the *De re militari* of Vegetius, an immensely influential Roman manual, versions of which circulated widely in the late Middle Ages and Tudor period. On the ground that 'experte and cunninge menne in feates of warre haue thought that dailye exercises of armes coulde more auayle to the health of souldiours' than recourse to medicine, it seemed advisable for 'the footemen in raigne & snow continually to be exercised for health vnder couert [cover], at other times in the plaine [open] field': *The Fovre Bookes of Flauius Vegetius Renatus*, trans. John Sadler (London, 1572), SCT (2nd edn)/24631, fo. 27r. See also, G. Geltner, 'In the camp and on the march: military manuals as sources for studying premodern public health', *Medical History*, 63/1 (2019), pp. 44–60.

[21] BL, Egerton MS 1995, fo. 67r–v.

[22] Luke Demaitre, *Medieval Medicine: The Art of Healing from Head to Toe* (Santa Barbara, CA, 2013), pp. 18–19.

[23] Michael McVaugh, 'The "humidium radicale" in thirteenth-century medicine', *Traditio*, 30 (1974), pp. 259–83.

be readily utilised at any point. Described as 'the basic manual' for late medieval students of medicine, the *Canon* of Avicenna (Ibn-Sīna, d. 1037) played a crucial role in the dissemination of these ideas.[24] The great Arab physician echoed Galen in arguing that a sufficiently energetic daily regime would render unnecessary the aggressive purges customarily employed to eliminate toxins and which tended to accelerate the ageing process by depleting the body's essential reserves of moisture.[25] An early printed vernacular edition of Bernard Gordon's regimen summarised these important considerations in clear, accessible prose:

> mesured exercyse hath many profytes, for it styreth [distributes] the kyndly [natural] hete & openeth the poores & louseth [dissolves] colde and thycke, tough humours. And whan they ben loused bereth them out at the poores & maketh a mannes ioyntes slypper [flexible] & lyght & it comforteth all the membres of a mannes body. Wherfore noyous humours ben more holsomly [safely] pourged & mesured by exercyse than by laxatyues or vomytees, for nother of them may be without empeyrement of kynde [nature].[26]

Preventative measures of one sort or another were clearly essential, since, if they were left to putrefy, these 'noyous' humours would give rise to the swellings, eruptions and lesions that signalled the onset of plethora, or dangerous excess.[27] They would hinder the transmission of nourishment throughout the body, contaminate the vital spirit and eventually overwhelm the heart itself.[28] In his attack upon the credulity of pilgrims who venerated the remains of St Eligius, the sceptical French surgeon Henri de Mondeville (d. 1320) claimed that the apparently miraculous 'cure' of *fistulae* recorded at his tomb owed little to divine intervention. On the contrary, the natural heat generated by 'the physical exercise of pilgrimage' was enough to dispel 'the cold, raw and undigested humours' that caused this distressing condition.[29] Breathing exercises offered another 'full prouffytable' means of expelling toxic matter from the body and were ideal for those whose options were limited by age or disability. 'Yf thou haue none other maner of exercise', Bernard Gordon

[24] Gil-Sotres, 'Regimens of health', p. 298.

[25] O. Cameron Gruner (ed.), *A Treatise on the Canon of Medicine of Avicenna* (London, 1930), pp. 382–3. Galen maintained that regular exercise would make it unnecessary for temperate individuals to follow a diet or have recourse to phlebotomy. 'Immoderate winebibbers and gluttons', on the other hand, might benefit in the short term from bloodletting, but needed a permanent regimen of physical activity to avoid illness: Peter Brain, *Galen on Bloodletting: A Study of the Origins, Development and Validity of his Opinions, with a Translation of the Three Works* (Cambridge, 1986), p. 82.

[26] *Here begynneth a lytell treatyse called the gouernall of helthe*, sig. A iij. See also BL, Egerton MS 1995, fo. 68r. Gordon attributed various medical conditions, including haemorrhoids, to lack of exercise. What today would be diagnosed as a haemoglobin deficiency he blamed upon 'idleness and too much food and drink, so that the digestion is impaired and the chyle is not transformed into the true form of the humours' (Demaitre, *Doctor Bernard Gordon*, p. 8).

[27] Gruner (ed.), *Treatise on the Canon of Medicine*, p. 382.

[28] Gil-Sotres, 'Higiene medieval', pp. 148–9.

[29] S. C. Macdougall, 'The surgeon and the saints: Henri de Mondeville on divine healing', *Journal of Medieval History*, 26 (2000), pp. 253–67, at p. 262; L. D. Rosenman (trans.), *The Surgery of Henri de Mondeville, Surgeon of Philip the Fair, King of France*, 2 vols (Philadelphia, PA, 1998), II, pp. 633–4.

advised his readers, 'holde thy breth as longe as thou mayst and then puffe it out as herde as thou mayst doo'.[30]

From a medical perspective, the decision *when* to exercise was therefore predicated upon a person's eating habits, not least because energetic activity at the wrong time, on a very full or completely empty stomach, hampered the effective conversion of food into natural spirit. In the first instance, crude, partially digested matter would be prematurely drawn towards the limbs and organs, extinguishing 'kyndely hete' like water thrown over a fire and generating 'wyndes and many-fold of other badnesse and vnprofites',[31] while in the second the body would overheat to the point of feverishness. The Italian physician Aldobrandino of Siena left nothing to chance. His celebrated regimen of *c.*1256, reputedly commissioned by Beatrice of Savoy for her four daughters, including Eleanor, wife of Henry III, was written in French rather than Latin, and furnishes precise, intelligible instructions about timing.[32] Following Avicenna, he recommended that the urine should be frequently tested to determine the exact moment during the digestive process when activity would prove most beneficial. The urine would have begun to thicken and turn yellow but would not yet have acquired the vivid hue indicative of an empty stomach, when exercise might prove extremely dangerous.[33]

Ordinary people could not, of course, take such elaborate precautions.[34] But they were nonetheless able to profit from advice literature, such as the *Secreta secretorum*, that circulated widely in the vernacular from the late fourteenth century onward and proved a best-seller in the burgeoning print culture of early Tudor England.[35] Originally intended for the guidance of the ruling elite, as the luxurious

[30] *Here begynneth a lytell treatyse called the gouernall of helthe*, sig. A iij; BL, MS Egerton 1995, fo. 68v. The 'deep and hurried' respiration associated with exercise was regarded by Avicenna as one of the best ways of expelling 'effete substances' from the body: Gruner (ed.), *Treatise on the Canon of Medicine*, pp. 382–3.

[31] M. A. Manzalaoui (ed.), *Secreta secretorum: Nine English Versions* (Early English Text Society, orig. s., 276; Oxford, 1977), p. 53; BL, Egerton MS 1995, fos 73v–74r.

[32] Internal evidence suggests that Aldobrandino composed this work at least one year before the dedication to Beatrice was added (at some point between 1257 and 1261): Françoise Fery-Hue, 'Le régime du corps d'Aldebrandin de Sienne: tradition manuscrite et diffusion', in *Santé, médecine et assistance au Moyen Âge, Actes du 110e congrès national des sociétés savantes, Montpellier, 1985* (Paris, 1987), pp. 113–34, at pp. 114–15; Nicoud, *Régimes de santé*, I, pp. 136–7. A fine presentation copy of *Li livres dou santé* produced at this time for Bernard of Florence survives as BL, Sloane MS 2435, and is described by Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London, 1998), pp. 103–7. For another copy of this popular work, presented to Henry VII by Jean Chabot, Lord of Emael near Liège, see BL, Royal MS 19 A V.

[33] BL, Sloane MS 2435, fo. 8r; Louis Landouzy and Roger Pépin (eds), *Le régime du corps de Mâitre Aldebrandin de Sienne* (Paris, 1911), p. 23; Gruner (ed.), *Treatise on the Canon of Medicine*, pp. 388–9.

[34] Even so, printed *regimina* for the popular market, such as Sir Thomas Elyot's *The Castel of Health*, which appeared in 1536 and rapidly ran through seventeen editions, repeated Aldobrandino's advice. Elyot duly informed his readers: 'whan the vryne appereth in a temperate colour not redde nor pale, but as it were gylte, than should exercyse haue hys begynnynge': *The Castel of Health* (London, 1561), STC (2nd edn)/7651, fo. 49r.

[35] Christopher Bonfield, 'The *regimen sanitatis* and its dissemination in England, c. 1348–1550' (University of East Anglia, unpublished PhD thesis, 2006), pp. 11–30, 42–4; Paul Slack, 'Mirrors of health and treasures of poor men; the uses of the vernacular medical literature of Tudor England', in

gold-embossed manuscript produced in 1326 for the future Edward III reveals,[36] the *Secreta* survives in several late medieval English versions for more widespread consumption. Among the various rules 'for the conservacion of helthe', reputedly offered by Aristotle to his pupil Alexander the Great, were clear, accessible recommendations about exercise, along the lines already described, stripped of all but the most basic theoretical underpinnings. They explained in simple terms that gentle early morning activity would spread nourishment throughout the upper torso, thereby stimulating the brain. In the words of one translation made in about 1484:

> qwan [when] thou art rysyn fro slepe, thu schuldys walke esyly a lytil in thi chambyr toward and froward, and alle thi membrys [limbs] with thi body euynly to strech and streyn owte euynly on lenght … for the strecchyng owte of thi membris strenghyt alle thi body, and makyth digest humoris to ascende and to fylle alle partys …[37]

In common with other *regimina*, the *Secreta* stressed the dangers of postprandial exertion, while urging the reader to 'walke softly' for a short time after eating, 'or ellis stonde ryght vppe, that the mete may descend fully to the bottum of thi stomak' before lying down on a soft bed to rest.[38] This precaution would allow the food to sink *slowly* into place, for, as we have already seen, 'hasty mouynge driueth naturall hete from the interior partes to the outward, and causeth il digestion'.[39]

Late medieval *regimina* for travellers traditionally offered strategies for coping with the excessive consumption of food and drink (*de crapula curanda*), which suggests that, just as today, a trip overseas served as a welcome pretext for overindulgence.[40] Guidance on this score was medical rather than overtly moral, and clearly reflects the assumptions about timing considered above. A fifteenth-century English version of Bernard Gordon's *Lilium medicine* (1305) warned in graphic terms that 'whan a mannys stomak is swythe ful he ne schal in no maner ryde, ffor if he do it is drede of grete akynge & nausea & of flux of the wombe & gnawynge & akynge of the stomak & indigestioun'.[41] The prudent traveller would,

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Charles Webster (ed.), *Health, Medicine and Mortality in the Sixteenth Century* (Cambridge, 1979), pp. 237–73. The growing market for *regimina* among the urban middle classes was already apparent throughout fourteenth-century Europe: Luis Garcia-Ballester, 'Changes in the *regimen sanitatis*: the role of the Jewish physicians', in Sheila Campbell, Bert Holland and David Klausner (eds), *Health, Disease and Healing in Medieval Culture* (New York, 1992), pp. 119–31, at p. 121.

[36] BL, Additional MS 47680.

[37] Manzalaoui (ed.), *Secreta secretorum*, p. 148. In his printed translation of the *Secreta*, first published in 1528, Thomas Paynell added the further recommendation that such exercises, performed immediately after one's early morning ablutions, would encourage the 'lyfely' (vital) spirits to suffuse 'the exterior partis of the bodye, and so to cause the spiritis of the brayne to be more quicke and subtile': *Regimen Sanitatis Salerni* (London, 1528), STC (2nd edn)/21596, sig. B iij verso.

[38] Manzalaoui (ed.), *Secreta secretorum*, pp. 150–1.

[39] Paynell, *Secreta secretorum*, sig. B iv recto.

[40] Yale University, Cushing/Whitney Medical Library, MS 19 Vault, liber VII, fo. 177v; H. P. Cholmeley, *John of Gaddesden and the Rosa medicinae* (Oxford, 1912), pp. 53–4.

[41] Bodleian Library, Oxford, MS Ashmole 1505, liber I, cap. 29 (*De iter agentibus*), fo. 48r.

therefore, eat sparingly while on the road, when possible taking just one meal in the evening before retiring for a good night's sleep. The Tudor physician Thomas Cogan considered it unsurprising that students were so often 'troubled with scabbes and other infirmities growing of corrupt humours', since they rarely heeded such sensible advice.[42]

In other respects, recommendations concerning the intensity, duration and nature of the exercise in question could vary greatly, not just according to the stage of the digestive process, but because of such crucial factors as age, gender, humoral temperament, physical stamina, the time of year and social rank. Following the example set by Avicenna, the authors of advice manuals were anxious to provide as wide a range of options as possible, to fit the circumstances and pockets of their readers. A walk in 'the uplands where the air is pure' cost nothing, might be enjoyed by all but the truly decrepit, and, as an added bonus, constituted one of the most effective types of exercise then on offer.[43] Moderation, the defining feature of the *regimen sanitatis*, remained a guiding principle, since however young and active one might be, the onset of discomfort, fatigue or breathlessness was generally regarded as a warning sign that it was time to stop.[44] A dietary allegedly 'govyn by Sigismounde Emperour of Rome, at his beyng in Englonde, vnto Kyng Herry the V^{te}', and thus boasting unusually impressive credentials, advised the reader to rise early and 'walke vpon hylly places' before a light lunch at midday. A second modest meal at five o'clock allowed plenty of time to

> take thy romynge after soper on watris or by watris sydis the space of thre houris; and loke thow walke nat to slowly for mortifiyng [deadening] of thy lymes, ne goo nat ouere swythe [fast] for parbrakyng [damaging] of veynes, senewes and joyntes, thane wake nat to longe but goo to bedde betymes …[45]

Such were the counsels of perfection. The conspicuous consumption of food and alcohol documented at the royal court, in the households of the nobility and in the wealthier English monasteries suggests that expert opinion often fell upon deaf ears.[46] The health-conscious, on the other hand, were likely to push themselves to extremes. Recognising that some

[42] Thomas Cogan, *The Haven of Health: Chiefely Gathered for the Comfort of Students* (London, 1584), SCT (2nd edn)/5478, p. 8.
[43] Horton-Smith Hartley and Aldridge, *Johannes de Mirfeld*, pp. 142–3.
[44] Gil-Sotres, 'Higiene medieval', p. 156.
[45] BL, Harley MS 5086, fo. 93v.
[46] Christopher Woolgar, 'Feast and fast: conspicuous consumption and the diet of the nobility in the fifteenth century', in Michael Hicks (ed.), *Revolution and Consumption in Fifteenth Century England* (Woodbridge, 2001), pp. 1–25; Barbara Harvey, *Living and Dying in England 1100–1540: The Monastic Experience* (Oxford, 1993), pp. 34–71. For Edward IV's notorious self-indulgence and disregard of his physicians, see Thomas Penn, *The Brothers York: An English Tragedy* (London, 2019), pp. 430–1. It is, however, worth noting the disapproval expressed in Galenic terms as early as the twelfth century of gluttons 'of the old school', such as Bishop Samson of Worcester (d. 1112), who 'put pressure on his belly by his lavish way of life' and whose 'mountainous frame had to take the further burden of an old man's years': William of Malmesbury, *Gesta pontificum Anglorum; The History of the English Bishops*, I: *Text and Translation*, ed. Michael Winterbottom (Oxford, 2007), bk 4, cap. 150. I am grateful to Professor David Bates for this reference.

of his patients might exercise to the point of exhaustion, one physician warned that, when taken too far, physical exertion would have the same detrimental effect upon the animal spirits as obsessive study or protracted insomnia, causing 'the instruments or organs by which sensations are created' to 'collapse and languish'.[47]

III

The Aristotelian concept of balance, which had so much influence on the development of medieval medical theory, helped to determine the safest as well as the most appropriate ways of taking exercise.[48] The obvious risks to humoral equilibrium of exercising when it was too hot or too cold meant that, whenever possible, energetic activity should be confined to the most temperate time of day.[49] By the same token, those who were naturally phlegmatic (cold and wet) or melancholic (cold and dry) needed to exert themselves far more than their choleric (hot and dry) companions, who were at greater risk of overheating. Sanguine (hot and moist) individuals were prescribed a regimen of mild exercise that would prevent the accumulation of toxins without raising the temperature to dangerous levels.[50] Ideally, all the different parts of the body were supposed to work at the same 'evyn and tempered' level of intensity, the arms and legs moving at an identical rate in order to generate a uniform level of moderate heat.[51] In practice, allowance had to be made for illness, injury or simple wear and tear; the elderly, in particular, were advised to rest any parts of their anatomy that seemed weak or vulnerable and to concentrate on those that still functioned effectively. Anyone with bad feet, varicose veins or arthritic knees was, for example, urged to take up rowing or lifting light weights.[52] While underscoring the threat that excessive heat would pose to bodies that had begun to dry out through the loss of essential moisture, guides to the preservation of health in old age stressed the necessity of movement.[53] Even if the individual were confined to a litter, the swaying motion would help to disperse humoral matter and thus preserve the vital organs, as also would 'gentle massage … and morning rubs with oil'.[54] The brain would likewise respond to the stimulus

[47] Dannenfeldt, 'Sleep', p. 439.
[48] Joel Kaye, *A History of Balance 1250–1375: The Emergence of a New Model of Equilibrium and its Impact on Thought* (Cambridge, 2014), chs 3 and 4.
[49] Gil-Sotres, 'Regimens of health', p. 305. Similar considerations applied to armies on the move. Commanders were urged to march before dawn in hot weather lest their men fall sick 'throughe the heate of the sunne and eariness of their iourneye'. It was equally important that 'in cruell and could winter they trauayle not by night through frost and snowe … for that souldiour can neither be healthfull nor fitte for any voyage which is constrained to quake for could': *Fovre Bookes of Flauius Vegetius Renatus*, fo. 27r.
[50] Gruner (ed.), *Treatise on the Canon of Medicine*, pp. 438–9.
[51] Gil-Sotres, 'Higiene medieval', pp. 145–6.
[52] Gruner (ed.), *Treatise on the Canon of Medicine*, pp. 387, 435–6.
[53] Shulamith Shahar, *Growing Old in the Middle Ages* (London and New York, 1997), pp. 39–40.
[54] Luke Demaitre, 'The care and extension of old age in medieval medicine', in Michael M. Sheehan (ed.), *Aging and the Aged in Medieval Europe* (Toronto, 1983), pp. 3–22, at pp. 17–18. The Italian

of conversation, debate and mathematical problems, remaining active after the body had begun to fail.[55] In his treatise on the postponement of ageing, the Franciscan friar Roger Bacon (d. 1294) regarded an undemanding ride on horseback or walking gently as the most useful ways of strengthening elderly limbs and ensuring that the nutritive and life-enhancing spirits reached every part.[56] Those who had devoted themselves to physical activity since youth enjoyed a predictable advantage, since 'all be it that they be feble or olde, it greueth theym lesse: and they labour more strongly than if they were yonge felowes unacustomed'.[57]

Guidance for those who cared for children, by contrast, focused upon the need to combine activity and rest in ways that would gradually reduce levels of moisture, dry out the tissues and harden the musculature. Gentle play before meals during infancy gave way to more vigorous exercises designed to prepare a teenage boy for the type of regimen deemed appropriate in early manhood.[58] Sir Thomas Elyot drew on a long tradition of medieval advice literature in his immensely successful *Boke Named the Gouernour* (1531), in which he set out the ideal 'education or forme of bringing vp the childe of a gentyll man, which is to haue auctoritie in the publike weale'.[59] No fewer than thirty-seven folios of this work are devoted to the different kinds of exercise that would not only promote health by cleansing 'the conduits of the body', but also encourage the virtuous conduct so admired by his fellow humanists.[60] A wide range of activities, including tennis, swimming, running and even dancing, gained his approval, although archery appeared to strike the perfect 'moderate and meane between euery extremytie', and thus to be the most potentially beneficial.[61] Elyot clearly had a patriotic as well as a pedagogic agenda, given that a series of royal ordinances and parliamentary statutes from the 1360s onward had ordered Englishmen and boys to develop their archery skills in the interest of national security,

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physician, Gabriele Zerbi (d. 1505), suggested that 'rubbing can be a good substitute for exercise in building up a man's strength … it dispels and liquefies superfluous humors, opens the pores, makes the members more solid, and aids expulsion of those humors which remain in the third digestion' (Gabriele Zerbi, *Gerontocomia: On the Care of the Aged*, ed. and trans. L. R. Lind (Philadelphia, 1988), p. 112).

[55] Demaitre, 'Care and extension of old age', p. 17.

[56] Roger Bacon, *De retardatione accidentium senectutis*, ed. A. G. Little and E. Withington (Oxford, 1928), p. 97.

[57] Paynell, *Regimen Sanitatis Salerni*, fo. 74v.

[58] Gruner (ed.), *Treatise on the Canon of Medicine*, pp. 37–9.

[59] Sir Thomas Elyot, *The Boke Named the Gouernour* (London: Thomas Berthelet, 1537), STC (2nd edn)/7636, fo. 14v.

[60] Elyot, *Boke Named the Gouernour*, fos 57r–94v. He acknowledged a particular debt to Thomas Linacre's new translation of Galen's *De sanitate tuenda* (fo. 58v), but also borrowed heavily from his humanist contemporaries. For more on this topic, see Nutton, 'Les exercises'.

[61] Elyot, *Boke Named the Gouernour*, fo. 92r. Whatever its physical and psychological benefits, dancing was not deemed suitable for all. Attempts by young members of Norwich's Benedictine community to stage late-night dances in the monastic guest house during the early sixteenth century provoked a predictable response: Augustus Jessopp (ed.), *Visitations of the Diocese of Norwich A.D. 1492–1532* (Camden Society, n.s., 43; Westminster, 1888), pp. 75–8.

while forgoing other pastimes.[62] We should, however, note that from 1462 the infirmary garden at Westminster abbey gave access to archery butts, where the monks, who were naturally exempt from this legislation, could practise for the good of their health alone.[63]

As might be expected, moderation assumed even greater importance during epidemics. The vernacular plague tracts or *concilia* that proliferated in fifteenth-century England warned their readers to shun rich food and 'swete noghte gretly than, for all thies opyns the pores of the body & makes venemous ayere to entre'.[64] Yet some light exercise was clearly essential in order to stimulate the digestive system and eliminate the superfluous matter that made an individual more vulnerable to infection.[65] A letter sent to the merchant Francesco di Marco Datini (d. 1410) during his stay in plague-ridden Bologna reflects the spread of medical knowledge among the Italian professional classes, for the writer was a notary, not a physician:

> Let not the sun go down behind the hill, without your having gone out; or if indeed you cannot, take before meals a little exercise to tire you, *without however causing you to sweat* [my italics]. You should have a block of wood and a saw, and give a few strokes or go speedily upstairs several times. For your food has no help from nature, and even as embers die out if they are not stirred, so the food in your stomach is frozen for lack of exercising your person.[66]

The Benedictine monk John Lydgate (d. *c*.1451) conveyed a similar message in homelier terms aimed at an urban audience. His 'Dietary and Doctrine for Pestilence' warned readers against idleness and overindulgence, reminding them that 'clere ayre and walkyng makys gode degestyon'.[67] They were urged to 'delite in gardeyns for their gret swetnesse', while avoiding 'mystys blastys' and pestilential miasmas of the kind that might arise from dung heaps and other hazards of communal life. It is interesting to observe here the interconnection between exercise

[62] Steven Gunn, 'Archery practice in early Tudor England', *Past & Present*, 209 (2010), pp. 53–81, at p. 53.
[63] J. H. Harvey, 'Westminster Abbey: the infirmarer's garden', *Garden History*, 20 (1992), pp. 97–115, at p. 102.
[64] Margaret Sinclair Ogden (ed.), *The liber de diversis medicinis* (Early English Text Society, orig. s.; 207; London, 1938, rev. 1969), p. 51.
[65] In the 'nedefull and necessarie' treatise 'ayenst the pestilens' that he produced specifically for a 'lewde' readership in about 1475, Friar Thomas Multon warned 'that the element of fire has non dominacion, ne wil not bren [burn] but in mater that is combustible and according to receyue fire. On the same wise, the element of the aier that is pestilence corrupt infecte nother man, nother woman, ne childe, but siche that hath venemes and corrupt humours within hemself': BL, Sloane MS 3489, fo. 45v.
[66] Iris Origio, *The Merchant of Prato: Daily Life in a Medieval Italian City* (Harmondsworth, 1986), p. 309.
[67] H. N. MacCracken (ed.), *The Minor Poems of John Lydgate* (Early English Text Society, orig. s., 192; London, 1934; repr. 1961), p. 702. The text survives in 57 manuscripts and was published 'by each of the first three English printers': George Shuffleton (ed.), *Codex Ashmole 61: A Compilation of Popular Middle English Verse* <https://d.lib.rochester.edu/teams/text/shuffelton-codex-ashmole-61-dietary-introduction> [accessed 17 Sept. 2021].

and those life-enhancing 'accidents of the soul' which served to strengthen the vital and animal spirits in their ongoing battle against disease.[68]

Since he was writing in verse for popular consumption, Lydgate naturally favoured walking as the easiest and cheapest form of exercise, but in such a hierarchical society status remained a minefield for the authors of *regimina*. 'Spyces of exercyse ben there well many as there ben dyuerse states of persones,' reported one early printed text, 'some ryche and some poore'.[69] Arnald of Villa Nova had recommended riding to King James of Aragon, for besides the fact that it involved so many different parts of the body, it seemed most appropriate for a monarch. Notwithstanding Galen's enthusiasm for ball games, Arnald considered them unseemly for a head of state, whose office would be further compromised by participation in competitive contact sports, such as wrestling.[70] His sentiments were echoed by Sir Thomas Elyot, for whom riding was likewise 'the most honourable exercise … that besemeth the astate of euery noble personne', and thus, implicitly, of his aspiring middle-class readership. He was predictably scathing about 'foote balle', which he pronounced 'vtterly abiected of all noble men … wherein is nothynge but beastly fury and extreme violence, wherof procedeth hurte, and consequently rancour and malice … wherfore it is to be put in perpetuall sylence'.[71]

Hunting on either foot or horseback had long satisfied all the necessary criteria for members of the ruling elite. Galen believed that, since 'the best exercises of all are those which are able not only to exert the body, but also delight the soul', hunting with dogs was an ideal recreation. 'The motion of the soul is so powerful', he claimed, 'that many have been released from their diseases by the pleasure alone'.[72] In an eloquent preface to his *Livre de la Chasse* (1389), Gaston Phébus, count of Foix, invoked Galen's even more celebrated predecessor Hippocrates (d. *c*.377 bce) when extolling the longevity of men who ate sparingly and exercised hard.[73] A translation into English by Edward, duke of York (d. 1415), entitled *The Master of Game*, reveals a striking correspondence with the language of the *regimen sanitatis*:

> Yit wold y preve how hunters lyvyn lengest of eny othir, ffor, as Ypocras tellethe, the replecconz [repletion] of metys sleythe moo men than eny

[68] For the need to maintain a cheerful and positive attitude in plague time in order to avoid infection, see Andrew Wear, 'Fear, anxiety and the plague in early modern England', in John R. Hinnells and Roy Porter (eds), *Religion, Health and Suffering* (London, 1999), pp. 339–63.
[69] *Here begynneth a lytell treatyse called the gouernall of helthe*, sig. Aiij.
[70] García-Ballester and McVaugh (eds), *Arnaldi de Villanova opera medica omnia, X.1: Regimen sanitatis ad regem Aragonum*, p. 427; Gil-Sotres, 'Higiene medieval', pp. 160–1.
[71] Elyot, *Boke Named the Gouernour*, fo. 93r. Football, or 'camping' as it was often known, attracted official censure for its potential to 'foment more general disorder, crime and even rebellion': David Dymond, 'A lost social institution: the camping close', *Rural History*, 1 (1990), pp. 165–92, at pp. 181–2.
[72] Galen, *Selected Works*, ed. and trans. P. N. Singer (Oxford, 1997), p. 299.
[73] Gunnar Tilander (ed.), *Gaston Phébus, Livre de chasse* (Cynegetica, 18; Karlshamn, 1971), p. 56.

> swerde or knyfe. And hunters etethe & drinketh lasse that [*sic*] eny man of all the wordyll … and here nature shall nott be empershed [prevented] to don here digestyon where thorough eny wikked humours or superfluitiez may be engenderyd … Lechez [physicians] ordeynethe lytyll mete to the seke men for to hele hem and swete [sweat] for the termyngnyng of hem; and sythe that the hunters etethe lytyll & [swete] ofte, alle weye they shulde leve lengyr and hole. And men desyrythe to leve longe in this wordyll in helthe & in joye, and aftyr dethe helthe of manys soule. And hunters hauethe all thes thingis.[74]

Notwithstanding these large claims, members of the clergy, and especially those in religious orders, were not supposed to ride for pleasure and certainly not to hunt. Ecclesiastical reformers and satirists alike attacked the widespread monastic disregard of this prohibition,[75] but many religious do appear to have adhered carefully to a more suitable regimen, or, significantly, to have wanted one.

The acquisition in 1444 of a *Liber de conservanda sanitate* by the monks of Walcourt, in what is now Belgium, suggests that even small north European houses owned 'customised' *regimina* especially geared for the demands of their sedentary and highly regulated lives. Strikingly, this text begins by stressing the importance of 'temperate or equal exercise' in fresh air in order to avoid dependence upon potentially harmful laxatives.[76] Whether or not they, too, commissioned similar manuals, English communities were no less persuaded of the need for proper facilities and timetables for recreation as a necessary means of keeping fit and cheerful.[77] In 1455, for example, the Durham Benedictines complained that there was insufficient room to exercise properly in their cramped precinct, even though their unhealthy diet made such provision essential.[78] Protesting in 1535 about the 'hardde and straytte' restrictions imposed upon his community by one of Thomas Cromwell's agents, the abbot of St Augustine's, Bristol, reiterated this message. His reference to the 'relaxation' of the veins, which carried humoral matter around the body, demonstrates how widespread the theories about human physiology discussed above had by then become:

> I bescheche you that y may walke within the cyrcuyte of the monastery, that is to saye within the grene and chanon marshe next adiacentt to the precyncte … Furthermore, bothe I and my brethern instantly prayeth, desyreth and beschechyth your good maistershypp to grauntte to me power

[74] Beinecke Library, Yale University, MS 163, fos 137v–138r. The invocation of spiritual health is striking in this context, as is the argument that hunters avoided idleness, 'the foundment of all vices & of synnez' (fo. 137r). For a modern English translation, see W. A. Baillie-Grohman and F. N. Baillie-Grohman (eds), *The Master of Game by Edward, Second Duke of York* (New York, 1909), pp. 11–12.
[75] G. R. Owst, *Literature and Pulpit in Medieval England* (Oxford, 1961), pp. 283–4.
[76] Léon Elaut (ed.), 'The Walcourt manuscript: a hygienic *vade-mecum* for monks', *Osiris*, 13 (1958), pp. 184–209, at pp. 188–9.
[77] Carole Rawcliffe, 'Mental illness and mental health in the late medieval English monastery', *Studies in Medieval and Renaissance History*, 3rd s., 15 (2018), pp. 285–311, at pp. 302–9.
[78] Ibid., p. 309.

> to geve to theym licence somme tymes to walke iij or iiij to gethers, the junyors with the senyors (refraynyng the towne), abowte the hilles and fildes to recreatt theyre myndes and to laxe theyre veynes, wherby they may be more apte to contynue bothe nyght and daye in the seruyce of God.[79]

Green space was more than a simple prophylactic. Demonstrating the pragmatism characteristic of their order, the Augustinians of Barnwell in Cambridgeshire recognised that the psychological problems arising from the tedium of monastic life would respond better to 'repose, diet and recreation' than to conventional medical treatment. Outdoor exercise certainly seemed the perfect way of dealing with depressed, dyspeptic or neurotic brethren, who were encouraged to 'walk in the vineyard, the garden and all along the riverside', even being allowed 'to go beyond the precincts into the fields, meadows or woods'.[80] Arrangements of this kind were not unusual, even in nunneries: the cartulary of Wherwell Abbey, Hampshire, furnishes a striking account of the sanitary reforms undertaken during the mid-thirteenth century by the Abbess Euphemia 'for the worship of God and both the spiritual and bodily welfare of the sisters'. Applying the tenets of the *regimen sanitatis* to her community, she not only improved standards of hygiene and care for the sick, but also provided recreational space in gardens, vineyards and shrubberies for the nuns to take regular exercise and 'enjoy the pure air'.[81] Shortly afterwards the extensive grounds of Lanthony Priory attracted the admiring attention of Queen Eleanor of Provence, who clearly followed the advice presented in her personalised regimen. While staying nearby at Gloucester Castle in 1277, she had a bridge constructed over the ditch so that she and her attendants could stroll there for the benefit of their health.[82]

IV

Shorn of their theoretical underpinnings, many of the preoccupations about exercise voiced in *regimina* gained credence far beyond the rarefied world of the royal court or monastic cloister, informing what Guy Geltner has described as a 'shared health literacy' that influenced urban magistrates throughout later medieval Europe.[83] In response to the

[79] He also asked leave 'summe tymes to walke to my maner places nygh to Bristow for the comfortable helthe of my bodye': The National Archives, State Papers 1/96, fo. 30r; James Gairdner (ed.), *Calendar of Letters and Papers, Foreign and Domestic*, IX (London, 1886), no. 215.

[80] John Willis Clark (ed.), *The Observances in Use at the Augustinian Priory of S. Giles and S. Andrew at Barnwell, Cambridgeshire* (Cambridge, 1897), pp. 206–7.

[81] BL, Egerton MS 2104A, no lix, fos 43v–44r; H. A. Doubleday and William Page (eds), *Victory County History of Hampshire*, II (London, 1903), p. 133. For more on the use of gardens for recreation, see Carole Rawcliffe, '"Delectable sightes and fragrant smelles": gardens and health in late medieval and early modern England', *Garden History*, 36 (2008), pp. 3–21.

[82] John Harvey, *Mediaeval Gardens* (London, 1990), p. 84. For Eleanor's concerns about environmental pollution, see Carole Rawcliffe, *Urban Bodies: Communal Health in Late Medieval English Towns and Cities* (Woodbridge, 2013), p. 165.

[83] Geltner, 'In the camp', pp. 48–9.

shockingly high death rate among prisoners exposed to 'the infected and corrupt air and other perils and horrible diseases' at Newgate gaol in early fifteenth-century London, the celebrated mayor, Richard Whittington, paid for the entire complex to be demolished and rebuilt on sanitary principles. The new prison, which opened in 1432, reflected current attitudes to health, not least regarding the value of exercise.[84] 'Because underground and dark, foetid chambers (*baissez & obscures maisons close de l'air*)' were known to 'generate and cause corruption and infections in the human body', the more reputable male inmates were henceforward allowed daily recreation in two spacious, well-ventilated rooms on either side of the chapel. Women had similar use of a large chamber near the hall, while in return for a modest payment anyone could enjoy the fresh air on walkways over the main gate.[85]

There can be little doubt that the connection between exercise and the dissolution of potentially toxic humoral matter was widely understood by this date, as we can tell from the ubiquity of bull-baiting in late medieval English towns and cities. Its popularity is generally regarded as evidence of a national propensity for blood sports, although the assumption that baiting a bull with dogs would improve the taste and *digestibility* of its flesh explains why so many urban authorities heavily fined any butchers who failed to do so. Drawing upon the Galenic concepts of physiology outlined above, contemporary medical opinion maintained that the 'violent heat and motion' of the baited animal would convert 'utterly unwholesome' flesh and 'gross blood' into tender and nutritious meat.[86] As the diet of working people improved after the Black Death, so the number of presentments made against butchers for failing to bait bulls before slaughter increased exponentially. From Bristol to Beverley and Yarmouth to Chester, local courts moved quickly against offenders who were deemed to be selling substandard, if not overtly 'poisonable', meat.[87] Whereas just two breaches of the relevant ordinance were reported by Ipswich jurors in 1438, the figure stood at five in 1465, eight in 1471 and no fewer than eighteen in 1484.[88] In early Tudor Exeter a raft of ordinances ensured compliance: both the warden of the craft of butchers and the 'bullringe man' (who supervised proceedings) swore under oath that 'no bull is to be slaughtred nor bulls fleshe to be sett to sale before

[84] Margery Bassett, 'Newgate Prison in the Middle Ages', *Speculum*, 18 (1943), pp. 233–46, at p. 239.
[85] London Metropolitan Archives, COL/AD/01/010, fo. 90v.
[86] C. A. Luttrell, 'Baiting of bulls and boars in the Middle English "Cleanness"', *Notes and Queries*, 197 (1952), pp. 23–4, and 201 (1956), pp. 398–401. Nonetheless, persons of a melancholic (cold and dry) temperament were still warned against eating beef, which in extreme circumstances might engender leprosy: Landouzy and Pépin (eds), *Régime du corps de Maitre Aldebrandin de Sienne*, p. 123.
[87] For a list of the urban communities that exacted heavy financial penalties for this offence, see Rawcliffe, *Urban Bodies*, p. 153.
[88] Suffolk Record Office, Ipswich, C/2/8/1/11, 13, 20; C/2/10/1/2. The fine for selling 'corrupt flesh' and 'bulls flesh not bayted' was fixed at 12d. for both offences in 1468: Nathaniel Bacon, *Annalls of Ipswiche*, ed. W. H. Richardson (Ipswich, 1884), p. 128.

he be beaten', while civic regulations, proclaimed annually through the streets after each mayoral election, repeated this ruling.[89]

Nor were bulls the only animals whose final hours were marked by a rigorous application of theories about the transformative powers of exercise. Aldobrandino of Siena warned that domesticated pigs were far more phlegmatic in nature than those that ran wild. Being extremely cold and wet, the flesh of young swine would engender corrupt humours and therefore appeared safe only for those of a choleric disposition who possessed strong stomachs.[90] As his contemporary, the encyclopaedist Bartholomew Anglicus, pointed out, however, the obvious solution was to replicate the constant movement that rendered the meat of wild boars more palatable and safer to eat. 'And therefore', he noted, 'tame bores beth strongliche ychacede and yteyede and also ybete ar [before] they be yslawe, that here fleisshe may be the more tendre and sauory bycause of stronge moeuynge'.[91]

The persistence of such beliefs well into the early modern period is hardly surprising.[92] As Andrew Wear observes, enduring assumptions about the holistic relationship 'between all the parts of the organic and inorganic worlds' meant that 'specific ideas such as the healthiness of motion were applied to a wide range of objects and creatures' by sixteenth-century authors.[93] None of these various 'objects' seemed in greater need of exercise than the body politic, whose survival required the same careful management of non-naturals as did that of its individual, living components. The long-standing association between idleness, vagrancy and disease that had developed in the aftermath of the Black Death clearly informed the agenda espoused by humanist reformers on the eve of the Dissolution of the Monasteries.[94] Warning that the 'polytyke body' had become 'replenyschyd & over fulfyllyd wyth many yl humorys, wych I cal idul & unprofytabul personys',[95] Thomas Starkey (d. 1538) drew some painful analogies:

> For lyke as in a dropcy the body ys unweldy, unlusty & slo, no thyng quyke to move, nother apte nor mete in any maner of exercyse, but solve with yl

[89] John Vowell *alias* Hooker, *Description of the Citie of Excester, Part III*, ed. W. J. Harte J. W. Schopp and H. Tapley-Soper (Devon and Cornwall Record Society, orig. s., 14; Exeter, 1919), pp. 821, 850.
[90] Landouzy and Pépin (eds), *Régime du corps de Maitre Aldebrandin de Sienne*, p. 122; Murray Jones, *Medieval Medicine*, pp. 106–7.
[91] M. C. Seymour (ed.), *On the Properties of Things: John Trveisa's Translation of Bartholomaeus Anglicus, De proprietatibus rerum*, 3 vols (Oxford, 1975–88), II, p. 1119.
[92] For example, Cogan, *Haven of Health*, p. 117, cautions that 'the flesh of swine fedde at home is more full of superfluous moysture for want of motion' than that of wild boars and 'can in no wise be wholsome meate'.
[93] Andrew Wear, 'Making sense of health and the environment in early modern England', in Andrew Wear (ed.), *Medicine in Society: Historical Essays* (Cambridge, 1992), pp. 119–48, at p. 145.
[94] Rawcliffe, *Urban Bodies*, pp. 97–104.
[95] Thomas Starkey, *A Dialogue between Pole and Lupset*, ed. T. F. Mayer (Camden Society, 4th s., 37; London, 1989), p. 52. Starkey prided himself on his medical knowledge, acquired while living in Padua: J. G. Harris, *Foreign Bodies and the Body Politic: Discourses of Social Pathology in Early Modern England* (Cambridge, 1998), pp. 30–40.

> humorys lyth idul & unprofytabul to al utward labur, so ys a commynalty replenyschyd wyth neclygent & idul pepul as unlusty & unweldy, no thyng quyke in the exercyse of artys & craftys, wherby hyr welth schold be mayntenyd …[96]

It is easy to see how anxiety regarding the corrosive effects of inertia came to permeate advice literature for the guidance of those, like Sir Thomas Elyot's young gentlemen, who were destined for positions of authority in the Tudor state, with power to devise and enforce stringent labour legislation.[97] Thus, for instance, the chapter on exercise included by the physician and former Carthusian, Andrew Boorde, in his *Breuairy of Health* of 1547 deals almost exclusively with the responsibilities of the paterfamilias 'to gouerne them the which be in his householde, or vnder his custody or domynyon, to se that they be nat ydle, for … ydlenes is chiefe maisters of uyces al'.[98] Produced one year later, Sir William Forrest's version of the *Secreta secretorum*, which was dedicated to the Protector of England, Edward, duke of Somerset, adopted an even harsher tone. It was essential, he urged, for the monarch 'too deteste ydlenes … that hydeouse serpent, whoe, loighteringe like a peasaunt pestilent, lurkethe in corners vnoccupied'.[99] In such a charged political climate, the careful management of the non-naturals became a matter of *communal* as much as individual well-being.

This shift in emphasis provides yet another fascinating example of the adaptability of the *regimen sanitatis* in the face of social and religious change, while reflecting the extent to which notions about the preservation of health formed part of the intellectual baggage of the ruling elite. Faith Wallis has described the medieval regimen as a medium for the widespread dissemination of Galenic ideas about the human body which eventually achieved the status of a code of secular ethics. Extending far beyond simple recommendations about physical fitness, its teachings 'quietly assumed a certain authority' in both the public and the private sphere, with the result that adherence to its underlying principles came to signal 'probity and respectability', while those who wilfully ignored them seemed to threaten the cohesion of the entire body politic.[100] When viewed from this perspective, the presumed benefits of exercise carried considerable moral weight. As 'helpe of helthe and enemy of ydelnysse', an invigorating programme of activity promised to expel malignant

[96] Starkey, *Dialogue between Pole and Lupset*, p. 54.

[97] Elyot was himself a busy member of the 1539 Parliament: S. T. Bindoff (ed.), *The History of Parliament, The House of Commons 1509–1558*, 3 vols (London, 1982), II, pp. 96–8; Alasdair Hawkyard, *The House of Commons 1509–1558: Personnel, Procedure, Precedent and Change* (Parliamentary History Texts and Studies, 12; London, 2016), p. 251.

[98] Andrew Boorde, *The Breuiary of Helthe* (London, 1547), STC (2nd edn)/3373.5, sig. B iij recto. The belief that 'slumbryng ydilnysse' gave rise to other vices derived from medieval *regimina*. See, for instance, Wellcome Institute Library, Western MS 411, fo. 3r.

[99] Manzalaoui (ed.), *Secreta secretorum*, pp. 494–5. Forrest devoted no fewer than seventy-four verses of his 'Pleasaunt Poesye of Princelie Practise' (ibid., pp. 494–53) to the problem of idleness, suggesting that free education for all from the age of four would produce a less slothful workforce.

[100] Faith Wallis (ed.), *Medieval Medicine: A Reader* (Toronto, 2010), p. 486.

humoral matter, 'drenyng a waye of vycys' and 'dystroynge of alle euyllys' at a collective as well as a personal level.[101] That the pursuit of physical health, a desirable end in itself, could, moreover, promote or encourage spiritual development further enhanced the force of these ideas. A travel regimen for pilgrims, mistakenly believed to have been composed in 1227 for the Emperor Frederick II, but almost certainly far later in date, emphasised the seamless nature of this relationship by identifying *three* closely interconnected types of exercise, which engaged the body, the soul and – through the writing or reading of such literature – the two combined.[102] As they climbed their ropes and lifted their weights, the canons of St Bartholomew's were surely preparing themselves for higher things, or so the authors of *regimina* must have hoped.[103]

PEER REVIEW

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[101] BL, Egerton MS 1995, fo. 67v.

[102] Nicoud, *Régimes du santé*, I, pp. 48, 52–9. For the Latin text, see Fritz Hönger (ed.), *Ärtzliche Verhaltungsmassregeln auf dem Heerzug ins Heilige Land für Kaiser Friedrich II. geschrieben von Adam v. Cremona* (Leipzig, 1913).

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