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Vital force

The inhalation of impure air was not the only threat to the occupants of a double bed. For many commentators, bed-sharing introduced a subtler but no less real danger: namely, enfeeblement through the loss to one's bedfellow of vital energy. This was not just a sense of well-being or thriving, but the life force itself. Sharing a bed allowed the constitutionally weaker sleeper to leach the vitality of the stronger, and while the former benefited from this exchange, the latter suffered.

Nonetheless, however complex the threat to health in the bedroom may be, the solution was straightforward. The dangers of both impure air and this more general enfeeblement could be addressed by introducing a simple barrier to cross-contamination: the safe distance between sleepers ensured by separate beds. 'It is best', remarked Dr Benjamin Ward Richardson, 'for persons of every age to have to themselves the shelter within which they pass one-third of their whole lives' (1880: 3.286). In the bedroom, health could best be secured by the autonomy of every sleeper, each in the air-moated fastness of their own bed. The dangerous traffic between bedfellows was therefore twofold: health was risked both by inhaling the breath of one's companion and by the possibility of losing one's own vital force to them. The bedroom was a potential site of both environmental and constitutional enervation. Where the previous chapter examined twin beds in the context of late nineteenth-century anxiety about disease transmission by foul air, this one addresses the overlapping concern that vital energy might also be drained by bed-sharing.

Dr Ward Richardson was writing at a time when the 'vitalist' controversy was still unresolved. This scientific debate about exactly what life comprised, what distinguished organic from inorganic matter, the animate from the inanimate, had reached a peak of intensity at the end of the eighteenth century, becoming 'one of the most intensely argued and notorious subjects in science' (Ruston 2005: 2), and the question continued in contention through the next century. Was there an absolute difference between living forms (animal and plant)

and inert substances such as rocks or other minerals? Was there a common principle of life, present in all living forms? By what process did living entities become dead ones? For over a century, 'the theoretical demarcation line in the study of living processes resided in the debate between physicalism and vitalism':

The advocates of physicalism claimed there was no fundamental difference between living organisms and inanimate matter. Living phenomena could therefore be studied and explained with the methods and laws of physics. This approach was strongly opposed by vitalists who postulated that living organisms had properties that could not be reduced to physics or chemistry and, therefore, biological phenomena could not be analysed with the concepts or methods of those sciences. Instead, vitalists claimed, to explain the nature of living phenomena one needed to apply such concepts as 'vital force' and 'vital fluids' to the analysis. (Puustinen, Leiman and Viljanen 2003: 77)¹

Paradoxically, the physicalist position was criticized both as reductive of life to nothing more than the operation of a series of physical and chemical reactions, and conversely as locating the animating principle beyond the body, with the soul. For their part, vitalists were open to the criticism of adhering to a paradigm nominally physiological but for which there was no scientific evidence. To posit a 'vital force', the element animating all living forms, was to beg the question, locating the solution to the problem in an unverifiable entity which was then taken to endorse the vitalist principle.

By the time Richardson was writing, the vitalist position was on the wane, but its influence was not yet negligible. Questions of vital force – what it comprised, its place in sustaining human life, how to nurture it, what threatened it, its place in health and disease – continued to exercise the scientific, medical and popular press. In 1870, for example, the *British Medical Journal* published a lecture by physiologist David Ferrier entitled 'Life and Vital Energy Considered in Relation to Physiology and Medicine'. He traces the history of vitalism and considers its contemporary status, confirming it as a still valid subject of enquiry in physiology and as a concept of relevance to trainee physicians (Ferrier 1870: 429). Ferrier is a physicalist: like 'almost all of the advanced physiologists of the present day' he sees 'vital energy [as] merely a form of physical energy' (ibid.: 430). Nonetheless, he engages with those leading contemporary vitalists who 'deny that vital energy can be explained by chemistry or physics; and hold that vital energy, though associated with matter, is independent of it' (ibid.). In so doing, he shows respect for vitalism as an attempt to account for that which science has not yet sufficiently explained: 'We know so little', he writes, 'of the

ultimate nature of energy that it would be presumptuous to dogmatise on the subject' (ibid.: 431). Vitality, he concludes, remains a useful concept for scientists:

Inasmuch as it manifests in modes peculiar to itself, and different from any of the other modes of energy with which we are acquainted, we may yet use the terms vital energy, vitality, vital force, to signify this special mode of manifestation, so long as we do not use the term in the sense in which it is used by the vitalists. (ibid.)

Even Ferrier, a physiologist and physicalist, finds the notion of vital force useful, permitting him to consider a distinct energy which 'manifests in modes peculiar to itself'. The physiological approach to vital energy thus does not deny its capacity to signify something of the mysteries peculiar to living entities. Indeed, Ferrier begins by suggesting that 'life and the nature of vital energy form the common ground on which metaphysicians and physiologists meet' (ibid.: 429). For him, vital force remains a valuable concept through which the relationship between the material and the immaterial, as well as the organic and the inorganic, can be addressed.

Questions of vital force also informed more popular explanations of life, health and disease. In 'Growth', an article on the science of growth in the didactic weekly *The Quiver*, for example, the topic is addressed through reference to vital force: 'The presence or absence of these powers of life and growth is one grand distinguishing characteristic of all organised and unorganised bodies; as a tree grows through the mysterious action of an inward vital force, while a stone can be increased only by the addition of matter from without' (1865: 104).² *Chambers's Journal of Popular Literature, Science and Arts* published an article on 'Vitality versus Disease' where again the concept of vital force allows the constitution of a field that is at once scientific and metaphysical, comprehending the insights of physics and the wonders of the animating principle (1862: 102–4). Vital force is 'nearly allied to the so-called physical forces, light, heat, electricity, &c., and appears different to them only on account of its peculiar relations to matter' but also 'of all the forces observed in nature, it is perhaps the most wonderful' (ibid.: 102). The concept serves here to develop a eugenicist argument, tracing the consequences of the fact that 'hypothetically, vital force may be regarded as intended to be equally powerful in all the individuals of a species', but is 'misdirected, enfeebled, or lost' through the intervention of 'antagonistic agencies' in the environment: 'Impure air, improper food, intemperate habits, scanty clothing, and overhard work, enfeeble the health and undermine the constitution. In other words, they depress the vital force, and render it liable to extinction' (ibid.). Such factors are referred to as 'vitiating conditions'. Strikingly,

impure air is itself not only 'vitiating' but also vitiating. The discussion starts with environmental degradation and ends in a vitiated population, 'a feeble and degenerate race' (ibid.: 104). What begins with a concern for public health concludes with a eugenicist desire for a socially engineered populace, bred from only the soundest stock.³

Eugenics was an increasingly powerful discourse in the closing decades of the nineteenth century, and the positing of a link between environmental and bodily vitiation was not the preserve of the *Chambers's Journal* article alone. In his book *Sleep*, Walter Whitty Hall sketched the same trajectory: the evils arising from over-indulgence 'extend beyond those who practice them, and are carried into the ages yet to come'. Excesses 'beget debility of the organs connected with them'; these organs then 'prepare a vitiated, imperfect material, diseased and monstrous', resulting in a 'multitude of weakly, sickly, puny persons', blighted morally as well as physically into subsequent generations (Hall 1861: 127). Vitiating breeds vitiation. It flows from environment to person, and then within and across the generations it passes from person to person by physical contact and heredity. Vitiating is not a stable attribute but an active pollutant, insidiously debilitating the nation's stock.

If vitiation of vital force was addressed as a threat to national well-being, it was also discussed at the level of the family. One issue of longstanding concern was the common practice of putting children to sleep with elderly relatives. Repeatedly, it was emphasized that the elderly and the very young should never share a bed as the old person would sap the vitality of the infant. Richardson, as always, had a view on the matter. Driving home the advantages of his single-bed system, he pointed out that thereby:

it is rendered impossible to place very old and very young persons to sleep together. To the young this is a positive blessing, for there is no practice more deleterious to them than to sleep with the aged. The vital warmth that is so essential for their growth and development is robbed from them by the aged, and they are enfeebled at a time when they are least able to bear the enfeeblement. (Richardson 1880: 3.286)

For Richardson, this is a lesson that needs to be enforced, suggesting that the habit is neither uncommon nor its risks properly understood. Just as his sanitarian advice insisted that householders look to the hidden material dangers of common domestic practices – the eruption of disease in vitiated air and contaminated water – so here it extends to the more nebulous dangers occasioned by harmful sleeping arrangements. If a 'single bed for every sleeper' (ibid.) is the rule, then how much more important is it when the loss of vital warmth from the infant to the aged person compounds the danger?

Richardson's warning draws on a set of longstanding understandings of the physiology of aging. At the heart of his plea were, again, the vitalist debates about what constituted life, what demarcated it from death and what characterized the journey from one to the other. According to Steven Shapin and Christopher Martyn, 'Historically, ageing theories fell into two related categories':

Firstly, ageing was the progressive loss of body heat. Getting old was getting cold. It's obvious that living things are warmer than non-living things – the warmer you are, the more full of vitality you are. What kept you going was an innate vital heat, a flameless flame. As you aged, so that heat diminished; the life course took you from the warmth of youth to the cold of the grave. Secondly, ageing was the gradual loss of bodily moisture. Dying was drying. ... Virtually every theory about ageing from the ancient Greeks to the 19th century was a version of cooling or drying or a combination of the two. (Shapin and Martyn 2000: 1580)

This understanding of the life course as passing from heat to cold, from moisture to dryness, could on occasion be tapped to therapeutic advantage. A medical intervention advocated by the seventeenth-century physician Thomas Sydenham, which he described as 'a singular expedient' for cases of fever in aged persons who had not responded to other treatments, involved 'the application of the heat of [a] strong and healthy young man: nor will it be found surprizing, that by this uncommon means the patient should be considerably strengthened ... a considerable quantity of sound and wholesome *effluvia* will thus pass from a robust, healthy body into the exhausted body of the patient' (1742: 33–4). The treatment may have been unusual but it was not new: many observe that in the Bible the elderly and chilly King David is provided with a young virgin to lie beside him, so 'that the lord my king may get heat' (1 Kings 1:2; see too Shapin and Martin 2000: 1581; Shapin 2009). The practice is premised on a young person's vital warmth being a transferable resource, with one body permeable to the energies of the other. But it is also noteworthy that it is an 'expedient', an exceptional intervention to be used only when other treatments had failed. It should not be an element within a regimen of general health, let alone a habitual sleeping arrangement.

By the mid-nineteenth century, Sydenham's prescription was no longer being properly observed. By then, the critical attention afforded the transfer of vital warmth from young to old was not to recommend it as an exceptional therapy but to condemn it as a dangerous and all-too-common familial practice. In his *Dictionary of Practical Medicine*, Dr James Copland names it as a cause of debility, defined as 'a diminution of ... vital energies' (Copland 1858: 1.473). Debility is not a side-effect of particular illnesses but a malaise

in its own right, with a number of possible origins; and one 'not uncommon cause of depressed vital power', he writes, 'is *the young sleeping with the aged*. This fact, however explained, has been long remarked ... But it has been most unaccountably overlooked in medicine' (Copland 1858: 1.475; original italics). It had not, of course, been overlooked as an exceptional medical intervention, as recommended by Sydenham, still in print in Copland's time. Perhaps he meant its power had not been properly respected or effectively prohibited.

To demonstrate the usual presentation of the problem, Copland includes a case history:

I was, a few years since, consulted about a pale, sickly, and thin boy of about five or six years of age. He appeared to have no specific ailment; but there was a slow and remarkable decline of flesh and strength, and of the energy of all the functions – what his mother very aptly termed a gradual blight. After enquiry into the history of the case, it came out that he had been a very robust and plethoric child up to his third year, when his grandmother, a very aged person, took him to sleep with her; that he soon afterwards lost his good looks; and that he had continued to decline progressively ever since, notwithstanding medical treatment. I directed him to sleep apart from his aged parent; and prescribed gentle tonics, change of air, &c. The recovery was rapid. But it is not in children only that debility is induced by this mode of abstracting vital power. Young females married to very old men suffer in a similar manner, although seldom to so great an extent ... These facts are often well known to the aged themselves, who consider the indulgence favourable to longevity, and thereby often illustrate the selfishness which, in some persons, increases with their years. (1858: 1.475)

The scenario is a familiar one. Victorian and Edwardian popular medical advice is full of accounts of previously robust and carefree young people unaccountably losing their looks and vigour, becoming listless and enfeebled, and wasting away even to the point of death. Sometimes domestic sanitarian writing includes such anecdotes to demonstrate the insidious effects of toxic wallpapers or sewer gas, but more commonly such accounts are part of an extensive anti-masturbation literature. William Whitty Hall, for example, writes of parents' anxious concern as they witness 'the pallid faces of once ruddy children, the trembling fingers, the averted eye, the thinned flesh, and the melancholy features ... the malady may have run on to a condition irremediable, and the victim passes to the mad-house or to the grave' (1861: 142–3), all owing to habitual masturbation.⁴ In Copland's account, however, the source of the decline is the grandparent who, like an elderly succubus, selfishly restores

their own vitality by abstracting the youthful energy of the infant. The transfer of vital force is no longer a single altruistic donation made by robust youth to sickly age. It is seen instead, as it would later be by Richardson, as an act of embezzlement, the tapping of a vital warmth to which the recipient has no right. Vitality is siphoned off, not lost but stolen, 'robbed from them by the aged' (Richardson 1880: 286), such that the life of the older party is parasitically sustained. The decline is registered in the body and vitality of the individual child, but it is comprehensible only as part of a network of energetic exchange, whereby the proper order of thriving and decline, life and death, is reversed.

Copland and Richardson's warnings against intergenerational bed-sharing are widely held and frequently rehearsed. Indeed, Copland's words quickly became an authoritative source and were cited – usually, but not always approvingly – in many British and American periodicals in subsequent years.⁵ Others make the same case in their own words. The popular American medical adviser Edward B. Foote warns that 'a habit which is considerably prevalent in almost every family, of allowing children to sleep with elder persons has ruined the nervous vivacity and physical energy of many a promising child. ... [E]very parent who loves his child ... must see to it, that his nervous vitality is not absorbed by some diseased or aged relative'. Failing to do so would, as Copland had warned, mean that 'they soon pine, grow pale, languid, and dull, while their bed companions feel a corresponding invigoration' (Foote 1896: 136). As late as 1919, Edwin Bowers was lamenting the practice, though less for its mortal consequences and more as evidence of the perversity of foreign cultures:

For children to sleep with the aged ... is a crime against the child. ... Only thirty years ago certain institutions, founded upon these same principles, existed in France. Young girls and boys were supplied to old women and old men as bed-fellows ... The evil effects of this strange sale of life-force were so marked that the institutions were finally closed by police order. ([1919] 1920: 123–4)

These criticisms rehearse the danger of this as a habitual practice, a criminal injustice done to the child, and the iniquity of the older person who uses the child to increase their own longevity. Bed-sharing in this scenario produces a perversely anti-Darwinian scene, where the weaker thrives and the stronger is diminished. The warmth of youth is hijacked by the elderly, inverting the natural order in which age, physiologically at least, defers to youth.

The loss of vital force was a danger not only in the case of the old sleeping with the young, where there was a manifest inequality between the bedfellows in terms of age, health and vigour. A short article in the weekly

Penny Illustrated Paper in 1872 found similar cause for concern with regard to all bed-sharing:

SLEEPING TOGETHER. – The ‘Laws of Life’ says: – ‘More quarrels occur between brothers, between sisters, between hired girls, between school-girls, between clerks in stores, between apprentices, between hired men, between husbands and wives, owing to electrical changes, through which their nervous systems go, by lodging together night after night, under the same bedclothes, than by almost any other disturbing cause. There is nothing that will derange the nervous system of a person who is eliminate in nervous force like lying all night in bed with another person who is almost absorbent in nervous force. The absorber will go to sleep and rest, while the eliminator will be tossing and tumbling, restless and nervous, and wake up in the morning fretful, peevish, and discouraged. No two persons, no matter who they are, should habitually sleep together. One will thrive and one will lose. This is the law, and in married life it is defied almost universally.’ (*The Penny Illustrated Paper* 30 March 1872: 203)

Despite the ostensible parity of these bedfellows – brothers share with brothers, hired girls with each other, and so on – a hierarchy is exposed through the operation of an innate but hidden physiological inequality: one of each pair will be an ‘absorber’ of energy, the other an ‘eliminator’. In the unhealthily commingled world of the double bed, the absorber will thrive, leaching, via electrical exchange, the vital force of the eliminator, who will wake depleted and diminished. The result extends beyond the physiological. Not only will the eliminator suffer from nervous derangement, but there will also be discord between them. The whole sorry process results, it might be inferred, in an inefficient workforce: it is striking that of co-sleepers enumerated here, more are fellow employees than relatives. The pernicious influence of double beds extends from the individual and hygienic to the social and economic: bed-sharing can damage not only the health but also an employer’s balance sheet and the smooth running of a household. It can precipitate the infection of the body by means of foul air, and debilitate a sleeper’s mood, vitality, disposition and productivity through electrical exchange.

This article may have been brief and buried on an inside page of the *Penny Illustrated*, but its frequent republication suggests that its ideas were expected to meet a receptive readership. The opening attribution to the ‘Laws of Life’ sources it to a popular American medical periodical of this name published monthly by ‘Our Home on the Hillside’, a water-cure clinic in Dansville, New York, run by the health reformer James Caleb Jackson since 1858.⁶ The original article probably appeared there in the late 1860s, since the republications

began in 1869 and continued in American publications through the 1870s and 1880s.⁷ The article seems to have first appeared in Britain in the *Penny Illustrated* in 1872; it was published again in 1877 in Dickens's periodical *All the Year Round* (glossed as an 'odd idea indeed') and also in the *Manchester Times*, the *Aberdeen Journal* in 1879 and in the English press in India in the late 1880s.⁸ Overall, the piece appeared in newspapers, periodicals and medical advice books at least a dozen times between 1869 and 1902.

The article's provenance in a periodical published by a hydropathic clinic in the United States points to two significant aspects of British health cultures in the late nineteenth century. First, it indicates the extent and influence of heterodox or 'fringe' (what we might now call 'alternative') medicine; and second, it suggests the currency in Britain of materials originating in the United States. Ideas about health, including healthy domestic practices, were generated not only locally but also internationally, not only by orthodox physicians but by practitioners working with a range of different medical paradigms. For readers seeking guidance on staying healthy, there was a bewildering (or perhaps invigorating) array of approaches, promulgated by an international pantheon of practitioners.

Alongside the increasing influence of scientific medicine and its establishment as an orthodoxy by the turn of the twentieth century, there continued a thriving diversity of competing understandings of the body, health and disease throughout the nineteenth century. Practices such as mesmerism, homeopathy, acupuncture, medical herbalism and hydropathy, alongside and in combination with phrenology and spiritualism, vegetarianism and temperance, dietary reform and exercise regimes (this list is not exhaustive) formed an evolving constellation of approaches to health and disease, hygiene and medicine, body and spirit, vital force and physiology. These were in no simple sense seen as straightforward 'alternatives' to more orthodox medicine – a category that was itself, in any case, still under construction. The historian of alternative medicine Roger Cooter demonstrates the difficulty of trying to distinguish between 'orthodox' and 'fringe' in the nineteenth century:

The medical status of practitioners can be no criterion for demarcation, since many of those within these ['fringe'] practices were medically qualified. Neither on grounds of curative competency and efficacy, nor on grounds of economic gain, is it possible (then as now) to make any hard and fast distinctions; the incompetencies of orthodoxy were as renowned as the fortunes of certain homoeopaths, hydropaths and medical mesmerists. ... Imposed distinctions between scientific empiricists and 'others' likewise do not stand, for always there were those well within the medical establishment who held to outlooks or to pet practices scarcely distinguishable from those on the 'fringe'. Several eminent physicians

and surgeons in the nineteenth century simultaneously held important positions on both sides of the arbitrary historical fence. (Cooter 1988a: xiv)

This last point can be confirmed by reference to the domestic sanitarians encountered in the previous chapter. Drysdale and Hayward, authors of *Health and Comfort in House Building* (1890) and designers of houses with integrated ventilation systems, were both orthodox physicians and practising homeopaths.⁹ The surgeon Thomas Pridgin Teale, author of *Dangers to Health: A Pictorial Guide to Sanitary Defects*, was not only an early convert to antiseptic surgery, but also one of three generations of Pridgin Teales to use acupuncture in their medical work (Bivins 2007: 127–8; Teale 1871: 567–8). And Sir Benjamin Ward Richardson, at the heart of the British medical establishment, never accepted germ theory, even though at the time of his death in 1896 it was on the cusp of attaining orthodoxy (Richardson 1897: 449–53). His less mainstream credentials also include arguing for the health benefits of vegetarianism; his familiarity with the work of Gall and Spurzheim, the originators of phrenology, as well of its key British proponents, Andrew and George Combe, whom he called ‘great men’ (Richardson 1887: 119); and his unswerving belief in the existence of something akin to vital force:

We living men and women make in our own corporeal structures a refined atmosphere, which I have called a nervous atmosphere, or ether: an atmosphere which, present in due tension, distinguishes life: which absorbed or condensed distinguishes death: an atmosphere through which the external world vibrates and pierces us to the soul ... A physical atmosphere lying intermediate to the physical and metaphysical life. (ibid.: 193)

The eminently practical man of science and advocate of sanitationism was also a lifelong vitalist.

Just as medically trained doctors incorporated less orthodox practices into their work, so practitioners of ‘fringe’ treatments such as mesmerism, phrenology and hydropathy often sought legitimation through reference to ‘positivist science and medicine’ (Cooter 1988a: xi), and had complex relationships with more mainstream medicine. Kelvin Rees has shown how hydropathic practitioners saw themselves as offering a radical alternative to regular medicine, arguing that the use of drugs, vaccination and surgery were dangerous. Instead, they advocated the water cure: the use of water both internally and externally, fresh air, exercise and a simple diet as the route to health. Yet they shared with orthodox physicians their taxonomies of disease and understanding of physiology, and with domestic sanitarians their belief in the fundamental importance to health of clean air and pure water (Rees 1988: 30).

Despite their criticisms of scientific-medical approaches, heterodox practices shared with them an overlapping language and conceptual framework. The discourse of vitalism was of particular importance, bringing together the academic science of the Royal Society and the popular treatments of fringe practitioners. Vitalism accommodated both the findings of experimental and theoretical physics and chemistry, where scientists tried to identify the nature of vital energy as an electrical or magnetic force, and the discourses of the mesmerists, phrenologists and hydropaths, who promised better and safer ways of understanding the healthy and diseased body than those of the medical profession. Mesmerism, for example, was squarely vitalist, its defining substance, 'animal magnetism', understood as an invisible energy or fluid common to all organic life and whose free flowing was a necessity for health: 'If for any reason an individual's supply of animal magnetism were to be thrown out of equilibrium, one or more bodily organs would consequently be deprived of sufficient amounts of this vital force and would begin to falter' (Fuller 1982: 2–3). Health would return with the restoration of equilibrium to this fluid through the ministrations of a mesmeric practitioner.

The enthusiasm for animal magnetism was at its height in Britain in the 1840s, but thereafter, as Alison Winter demonstrates, 'mesmerism was absorbed into a variety of different disciplines and projects. In the process mesmerism itself was divided and became historically invisible' (1998: 348). One place it survived was in the work of phrenologists such as the Americans Orson and Lorenzo Fowler. But it also informs the work of the prolific writer of popular medical advice books, Edward B. Foote. When he writes of the activity of electricity or magnetism in the body, he says that 'I refer simply to that invisible element which gives activity to all its organs, and makes it radiant with life, and attractive or repulsive to other bodies coming within its influence' (Foote 1896: 623). The free circulation of this 'invisible element' is one of the foundations of good health: 'Disease of every character ... originates in a derangement of the circulation of vital electricity, disturbance of the mind, or an abnormal condition of the blood' (*ibid.*: 26). Foote's books were revised and republished into the early twentieth century, their vitalist conceptions of health and disease continuing to find a readership even as vitalism itself was largely discredited.

Hydropaths, like mesmerists, characterized vital force as electrical or magnetic. For them, disease 'was related directly to the concept of the nerves as a self-regulating system of physiological functions driven by fine sources of electrical energy in the cerebrum' (Rees 1988: 36). John Smedley, owner of the Matlock 'hydro' (a water-cure establishment), wrote of 'the supposed battery (the cerebrum) where the nervous energy, or electricity, is concentrated for the mind to apply or use as it is wanted: just in the same manner as the battery is kept charged for use at the electrical telegraph station' (quoted in Rees

1988: 35). R. B. D. Wells, phrenologist and hydropath, author of popular advice manuals and proprietor of a water-cure clinic in Scarborough, also delineated the workings of health and illness with reference to electrical energy. Debility, he wrote, would rob 'the cheeks of their bloom, the eyes of their electrical brightness, and the step of its elasticity' (Wells [1878] [1910?]: 65).¹⁰ But as well as speaking the hydropathic language of electrical energy, he also drew on scientific medicine, particularly the sanitarian commitment to pure air in the bedroom, making his case in precisely the terms that Richardson, Wilson and Galton had, through the invocation of oxygen and carbonic acid, and with calculations of the quantity of toxins emitted by a sleeping person (Wells [1880?]: 61).¹¹ Wells was careful to position his work as respectable both by aligning himself with orthodox doctors and by distancing himself from disreputable practitioners. Patients should seek 'an honest and skilful medical man or hygienic practitioner', he wrote, and beware of 'quacks' who 'seem to take pleasure in torturing the minds and frightening those who consult them by making their disorders appear worse than they really are, in order to extort as much as possible from their unfortunate victims' ([1878] [1910?]: 65). The complex heterodox medical terrain inhabited by practitioners like Wells, therefore, is perhaps best characterized as not simply or only defining itself in opposition to the 'orthodox', but, as Cooter suggests, 'as differently weighted fusions of both alternative and emerging-as-conventional outlooks' (1988b: 75).¹²

As well as occupying conceptual territory still indistinct from that of medical orthodoxy, heterodox practitioners were also part of, or at least formed by, a thoroughly international medical culture. Animal magnetism, phrenology, homoeopathy, medical herbalism and hydropathy all took root, in various forms and at different moments, in the Anglophone cultures of Britain and America as well as in Europe. Proponents and practitioners crossed the Atlantic in both directions, sometimes repeatedly, and even when they did not travel, their publications did. Most of the works written by Americans and Canadians referred to in this chapter – those by Hall, Foote, Hutchinson, Bowers – were published simultaneously or within a year in both North America and Britain, and American publications – Hall's *Sleep* is a particularly clear example – drew as much on British examples and studies as on American. The reverse, however, does not seem to have been the case: for example, R. B. D. Wells's *Vital Force* was published, the title page records, in 'London, Manchester, Newcastle-on-Tyne, Liverpool, India, Scarborough' ([1878] [1910?]), but not New York, Philadelphia or Toronto. Wells nonetheless acknowledges his debt to his American colleagues, referring to Thomas Low Nichols, the American hydropath who, with his wife Mary Gove Nichols (also a health reformer), lived in Britain after 1861, as 'a blessing to many thousands' (cited by Brown 1988: 182). Despite the increasingly secure authority of orthodox scientific

medicine, heterodox medicine was still popular in the late nineteenth century, and part of a vigorous transatlantic health culture.

This was the context of the 'Laws of Life' article, where, in the vitalist vocabulary of mesmerism and hydropathy, when the vital force of one sleeper was at risk of being tapped by the other, the advice was to sleep in separate beds. Other heterodox advisers shared this view of the dangers of bed-sharing. Edward B. Foote, in his lengthy disquisition on 'Sleeping Apart', even quoted the 'Laws of Life' piece verbatim to warn that 'five to eight hours bodily contact in every twenty-four with one person' will result in the deleterious 'interchange of individual electricities, and the absorption of each other's exhalations' (1896: 867). Quoting from a newspaper, Foote urges his readers to emulate the practice of 'the plain people of Germany':

'The married people, of plain life, sleep in two single beds, each being a "sweet little isle" of its own, while the two are affectionately contiguous. The connubial neighbours can respectfully shake hands, and wish good-night and good-morning. But the territory of each is distinct; the cloths are cut separate; each bed is complete, and there is no continuousness of bolster or implied community of pillow.' The adoption of this custom would be a step in the right direction. (ibid.: 868)

The advantage of this arrangement over separate rooms is that it allows the couple to continue with the 'social luxury of spending their nights together' (ibid.). Twin beds preserve the sociability of the shared space while securing to each spouse an autonomous 'territory' unthreatened by any 'implied community of pillow'. Contact can be made between these two 'affectionately contiguous' domains, the spouses' mutual goodwill, their *entente cordiale*, ratified by a respectful handshake.¹³

Each sleeper's occupation of an independent sovereign territory preserves bedfellows' neighbourliness but accommodates too the conceptualization of vital force as electrical or magnetic. Quite which it is, Foote avers, is not of prime importance: 'Animal magnetism, electro-magnetism, galvanism, and electricity, all differ a little from each other, and in employing the term *electricity*, chiefly, in speaking of the nervous forces, I do so because it is a term better understood by the masses' (ibid.: 28; original emphasis). Understanding vital force as electrical, however, has implications for how it is understood to function. In his discussion of the physics of vital transfer between young and old, Foote explains:

Children, compared with adults, are electrically in a positive condition. The rapid changes which are going on in their little bodies abundantly generate, and as extensively work up, vital nervo-electric forces. But when, by contact

for long nights with elder and negative persons, the vitalizing electricity of their tender organization is given off, they soon pine, grow pale languid, and dull. (ibid.: 136)

The body of the child is generator and battery, producing and storing a plentiful supply of 'vital nervo-electric forces'. In a virtuous circle of youth, health and vigorous vitality, the child's body engenders this force but is also fuelled by it. Health depends on the proper circulation of 'animo-vital electricity' (ibid.: 29), which derives from food and air, is delivered to the brain by the nerves and blood, which then distribute it throughout the body just as the heart distributes blood. Vital electricity is circulated by the nerves, the body's 'telegraphic system'; any problems with this system were to be addressed by the electricity of the physician, who 'must be a *battery in himself*' (ibid.: 298; original emphasis). Domestic sanitarians likened the body as a house, but for Foote and his ilk it is analogous to the modern nation-state: its well-being is reliant on its complex internal circuits of instant and free-flowing communication, powered by electricity, and therefore also vulnerable to system breakdown resulting from depletion of the power supply. In such cases, the body needs the therapeutic input of power from the 'battery' of the practitioner's own body. Better, however, to guard against such depletion by taking to the well-insulated territory of the single bed.

Foote's identification of vital force as electrical was not the preserve of heterodox practitioners alone: indeed, as the century progressed, 'physicians increasingly described the body in electro-mechanical terms' (Peña 2003: 98). In her study of the place of electricity in American health cultures, Carolyn Thomas de la Peña notes:

By 1871, Albert Steele, a doctor with an established New York practice, declared that his extensive research with electricity on the body led him 'irresistibly to conclude that man is but an electrical Machine, and that disease is simply a disturbance or diminution of the electrical forces in the system.' Many of the best medical theorists of the day offered some version of 'man the electrical machine'. (ibid.)

Despite the currency of this view, it was nonetheless heterodox rather than orthodox practitioners who made it a basis for their advocacy of separated sleep. William Whitty Hall, for example, in *Sleep*, concurs with Foote's arguments, even quoting his words with approbation, though unattributed (1861: 210–11). He opens his case for separate beds with the familiar domestic sanitarian argument: it is an 'absolute necessity to health ... that these destructive, human emanations shall not accumulate ... the two first steps

being large rooms and separate beds' (ibid.: 108). But this is then combined with a 'conjectural reason ... against two persons sleeping near each other':

Each individual has an amount of electrical influence, which in its normal proportion, is health to him. Electricity, like air and water, tends constantly to an equilibrium, and when two bodies come near each other, having different quantities, that which has the greater imparts to that which has the less, until both are equal. ... if a human body, with its healthful share of electricity or other influence, gives part of it to another which has less, it gives away just that much of its life, and must die, unless it is recovered in some way; ... sleeping together in the same bed, is a certain injury. (ibid.: 108–9, 110)

The demonstrable facts of physics give Hall the basis of his argument. Air, water and electricity all tend towards an equilibrium; for Hall, therefore, vital force – also an electricity – shares this tendency. Two bodies with differing quantities of vital electricity will, like two clouds of different electrical states, undergo a natural process of equalization (ibid.: 110). Bowers cited the same argument approvingly in 1919: 'It is better for people not to sleep together, because if one has a weakness ... that weakness seeks to be satisfied. If the sleeper's companion can satisfy that weakness, it is going to be taken, because the law of nature is toward establishing equilibrium' ([1919] 1920: 128). For such commentators, conceptualizing vital energy as electrical produced a view of the body as animated by a fully physical force which endowed it with vitality but rendered it vulnerable to harm through the operation of 'an unchangeable physical law' (Hall 1861: 110) resulting from the proximity of another, differently charged, body. The threat was all the greater because vital energy was understood as a finite resource whose depletion resulted in a shortening of the lifespan. This 'closed system view of human energy' was widely held: 'The body had a limited amount of force or energy that travelled through the nerves and produced productive force' (Peña 2003: 26). Once lost, vital energy was not easily recuperated.

Bed-sharing was risky, therefore, because it placed differently charged bodies in close proximity repeatedly and for long periods. Foote elaborates the point: 'Two persons of different sex and temperament sustain the electrical conditions of positive and negative to each other, and that contact, if of sufficient duration, produces an equilibrium, unless the one possessing the greater amount, restrains it by the action of the will' (1896: 624). In the context of the marital bed, equalization of electrical forces is harmful. Dissimilarity needs to be preserved. Difference in electrical energies, both in kind (positive and negative) and in quantity, is understood as both inevitable (in the first instance) and desirable, particularly with regard to conjugal and

sexual relations.¹⁴ Equilibrium is to be avoided, although close contact will tend towards this. Healthy relations are sustained only through interrupting that tendency and maintaining the positive or negative condition of each. For Foote, this exercise of will is the responsibility of the stronger party: the one with a greater store of vital energy must step in to halt the raid on their resources by the weaker.

Not all Foote's compatriot commentators shared his conclusions, but were divided on the risks of bed-sharing. While the views of the health reformer William A. Alcott, writing in the mid-century, had been broadly similar to Foote's – 'In general, only one person should occupy a bed', and, in particular, the elderly should never share a bed with the young – he continued: 'They who sleep together – if sleeping together we must have – as an occasional exception to the general rule, should be in good and perfect health, and of the same or nearly the same age' (Alcott 1857: 83). Sylvanus Stall, at the end of the century, also urged caution, advising young husbands that 'where there is a disparity of physical condition, or a considerable difference of age, or either person is suffering from the effects of any disease which contaminates the atmosphere, separate beds, and oftentimes separate apartments, are essential' ([1897?]: 100). For Alcott and Stall, differences in age or health should preclude bed-sharing, while physiological and temperamental equality rendered it if not safe, at least safer. Andrew Stone, in *The New Gospel of Health* (1875), went further, advocating a therapeutic approach to bed-sharing close to that prescribed by Sydenham: 'No two persons should ever sleep together in the same bed, unless it be for curative purposes, where the magnetic relations are fully understood, and it is directed by the intelligent physician to that purpose'; to do otherwise risked both physical and mental disease, as 'it is a law of mental dynamics and electric affinities that, when two opposite bodies come together, they NEGATIVE [*sic*] and repel with *precisely* the same degree of force' (Stone 1875: 249, 250; original emphasis). A process this powerful is not something to undertake casually on a nightly basis. The author of *Vital Magnetic Cure* reminded readers that an understanding of the power of nocturnal magnetic emanations brought with it responsibility: 'He cannot thereafter disregard its teachings without laying himself open to condemnation' (*Vital Magnetic Cure* 1881: 38). Such understanding is, however, a rich resource, allowing for the ready resolution of marital difficulties through the interruption of the equalization of energies, since 'we believe the cause of unhappiness to depend simply upon a chemical change taking place in the condition of the life forces of the parties in antagonism' (*ibid.*: 40). Marital strife is relocated from the social or interpersonal to the physiological and biochemical, thereby obviating all blame for the difficulties and promising a ready resolution.

The phrenologist Orson Fowler, in contrast, had a more robustly optimistic assessment of bodily electrical exchange than Foote, Stall, Stone and

company. Fowler, a successful American popularizer of phrenology, applauded the effects of the transfer of electrical energy between husband and wife: 'Where two really love each other, both *get and give* strength. Even the stronger is improved more by what he gets, than injured by what he imparts. It benefits all who love each other. ... It interchanges their magnetisms; which marvellously vivifies both' ([1875?]: 550; original emphasis). Dr W. T. Parker, writing in the American journal the *Medical Brief*, made much the same case: 'The contact of healthful, normal people, in the relation of married life increases strength Vital force and power, warmth and strength, pass from one to the other during the sleeping moments and without loss; each has increased vital resources' (Parker 1900: 205). Such practitioners, far from producing an alternative orthodoxy on bed-sharing, drew conclusions about its desirability or otherwise that were as diverse as their therapies.

Many of these American titles reached a British audience through their publication in the two countries. Whether this can be interpreted as equating with international success, or even respectability, is harder to ascertain. Foote and Hall, for instance, published their books simultaneously, or nearly so, in Britain and the United States, though to what kind of British reception is difficult to gauge. Hall's later book, *How to Live Long* (1875), was widely advertised in British periodicals on publication, and received a long and largely favourable review in *All the Year Round* (1876: 224–9); another of his books had been reviewed, in a generally positive if patronizing tone, in *The Saturday Review* (28 October 1871: 572–74).¹⁵ This suggests that he was not readily dismissed as a quack, even if his zeal made him vulnerable to a moderating critical disdain. However, Richardson was subject to a similar condescension for his advocacy of domestic hygiene, so such a tone was not reserved only for heterodox practitioners.

The reception of Edward B. Foote's work is still more elusive. The British social reformer Annie Besant quotes from his *Health Monthly* in her column (Besant 1883: 232), although perhaps she had heard of him because of their common interest in birth control.¹⁶ Despite his prolific publication record, his work does not seem to have been much advertised in Britain. The popular magazine *Judy* carried a quarter-page illustrated advertisement for his *Home Cyclopaedia*, alongside small ads for a treatise on impotence, rubber appliances, and an urgent appeal by the Royal London Ophthalmic Hospital for donations (*Judy* 3 February 1904: 3). The resulting sense that his publications occupied a hinterland between the respectable and the risqué is reinforced by an advertisement in the same year in *The Academy and Literature*, in which a Birmingham bookseller is selling, alongside Foote's *Plain Home Talk*, an eclectic mix of titles: 'Boccaccio's Decameron, 2 vols and portfolio of suppressed plates'; 'Bewick's Birds, 2 vols., calf, nice set'; 'Hazlitt's The Book-Collector'; 'Wild Flowers worth Notice'; and 'Phallic Worship, Annotations on

the Sacred Writings of the Hindus by Sellon, with plates, scarce' (26 November 1904: 495).

It seems that Foote's explicit anatomical and sexual content, albeit in a medical and advisory context, as well perhaps as his reputation as a pioneer of birth control, ensured him a mixed reception. By some readers, he was clearly treated as a source of serious scientific and medical knowledge. A lieutenant on HMS *Penelope*, for example, writing to the marital adviser Marie Stopes in 1920, reports owning a copy of Foote's *Plain Home Talk*. He calls it 'a really splendid volume of formidable dimensions', but from which he and his wife have gleaned worrying information about 'the *devastating* effects upon girls of the "secret vice"' (Hall [1978] 1981: 150; original emphasis). In *The Academy and Literature*, however, Foote's work was relegated to the mixed company of volumes clearly signalled as titillating, even if dignified by a patina of scholarly seriousness, alongside the more obviously respectable. Edwin F. Bowers, who made substantially the same case as Foote regarding the need for 'separate beds for health' but without the sexual content, suffered a less ignominious fate: his British publisher was the popular but respectable George Routledge and Sons, and his book, *Sleeping for Health*, was given a brief but positive review in *The Athenaeum* (12 March 1920: 352). While the reception history of these titles remains largely elusive, it seems clear that international publication cannot in itself be taken as indicative of any kind of uniform acceptance.

Whatever discrepancies there may have been in the British reputations of Foote, Hall and Bowers, the home-grown hydropath R. B. D. Wells was, like them, alert to the particular pitfalls and pressures of bed-sharing. For him, as for Orson Fowler, the transfer of magnetic power between the positive and negative partners was – with certain caveats – to be welcomed:

Two healthy persons may sleep together without injury when they are of nearly equal age, but it is not well for young and old to sleep together. Married couples, between whom there is a natural affinity, and when one sex is of a positive and the other of a negative nature, will be benefited by the magnetism reciprocally imparted; but, unhappily, such cases of connubial compatibility are not common. (Wells [1880?]: 65)

Equality is the basis on which healthy co-sleeping is permitted. For young and old, this can never be the case, as inequality inheres in the age difference and the physiological distinctions that characterize this. Married couples present a different case. Those 'between whom there is a natural affinity' and whose 'natures' are positive and negative, Wells suggests, can share a bed and thrive, benefiting from the interflow of magnetism. Positive and negative magnetic complementarity is a sign of and reinforcement to compatibility. So

where Foote finds that the positively and negatively charged co-sleepers need to prevent magnetic interchange by using twin beds, Wells welcomes such an exchange within a relationship underwritten by a 'natural affinity'. However, he notes rather dryly that such instances of complementarity between married people are 'not common'. Consequently, for the most part bed-sharing is to be eschewed.

In Wells's formulation, a healthy body is continuous with a healthy marriage; in turn, 'connubial compatibility' is enhanced by magnetic exchange. The health (or its lack) of a spouse, grounded in the complementary action of reciprocal magnetism between the two parties, becomes an index of the health of the marriage. Conversely, lack of connubial compatibility endangered not just the well-being of the marriage but also the physical health of the individual married person. Sadly, however, this gauge of compatibility is only available after marriage, when it is too late to retreat. By then, more often than not, the necessary complementarity will be found to be absent, and consequently bed-sharing is generally unwise. Far from a co-sleeper being an ally and comfort through the dark reaches of the night, he or she is more likely to be undermining one's own health, strength and happiness.

The physical threat to bedfellows was, therefore, twofold. If a fellow sleeper's exhaled breath didn't make you ill, then their impoverished vital forces might sap your own, leaving you, in the words of the 'Laws of Life' article, 'fretful, peevish, and discouraged' (*The Penny Illustrated Paper* 30 March 1872: 203). From neither perspective is the shared bedroom a place of quiet retreat, intimacy or repose. Nor, indeed, should it be a place of invigoration or excitement, let alone conflict. Rather, the bedroom, 'the room for the third of this mortal life, and that third the most helpless' (Richardson 1880: 3.287), condenses the dangers of the wider domestic environment, both because of the length of time spent there, and because sleep suspends the waking state of constant vigilance. Night after night, year after year, unless care is taken, those sharing a bed unwittingly put themselves at risk from the other's exhalations and from electrical exchange. The advice to sleep in twin beds was founded in anxiety about the mysterious and deleterious unseen forces at work in the atmosphere and energy fields surrounding and binding co-sleepers. Unconsciousness together with regular proximity constituted a long-term health risk for bedfellows.

In short, the bedroom environment was devitalized by the sleeping body; the impure air further endangered that body; and the possibility of a loss of vital force to a co-sleeper added a further dimension to the network of unhealthy intercorporeal exchanges. In this account, the human body, variously conceived, was a powerful but delicate instrument. It generated dangerously enfeebling waste products requiring systematic removal. It was sustained by a mysterious and wonderful vital force, akin to the power generated by

an electro-magnetic battery. But this sensitive instrument was vulnerable to breakdown, its energy supply finite and in danger of being squandered, sapped by the unconscious physiological needs of the other. Consequently, the body and its energies needed careful monitoring, preservation and recharging. Having plenty of sleep 'is not idleness', wrote Richardson, but 'an actual saving, a storing up of invigorated existence for the future' (1880: 1.66). As well as guarding against environmental and constitutional vitiation, the health-conscious reader needed to adopt a regime that would safeguard the precious, vulnerable and finite reserves of vital energy.

Despite its metaphysical dimensions, and despite its affiliation with heterodox medical practices, the discourse of vital energy inhabits a world co-extensive with the more prosaic domestic sanitarian one. It is a place where invisible forces, whether corrupted air, impure water or the parasitic misappropriation of the forces of life itself by a co-sleeper, can wreak havoc with a person's health. Bodies are disconcertingly permeable to each other and to their domestic environments. Nothing is necessarily what it might seem to be – neither the air in the bedroom, nor the wallpaper, nor a loving spouse or doting grandparent. Risk lurks in the most unexpected of places, and, most unsettlingly, in the places and people usually thought of as sources of protection and purification. Plumbing should enhance cleanliness and thereby health, but instead might as easily return sewer gas to the heart of the home. A spouse should be a helpmeet, a source of comfort and nurturance, but instead may bring toxic exhaled breath to the marital bed. Grandparents should be wise protectors of their infant kin, but instead become thieves of their vital force. Only when the invisible threat is made visible in the bodies of the unwary can its presence be retrospectively identified. Many measures were advocated as protection against such dangers. Among them, in the bedroom, was the splendid and protective isolation offered by a single bed.

The perils threatening this vulnerable human instrument were not conceived as *only* intercorporeal. The purity of the air was of endless concern, its quality affected by outside pollutants and by one's own exhalations as well as by those of one's bedfellow, and these threatened lone as well as co-sleepers. Nonetheless, the relational dimension of the threat, the intensification of the risks in a shared bed, demanded special measures, leading many to agree that nocturnal health, safety and comfort could best be assured in the singular. An article called 'On Going to Bed' (1872) by the sketch writer Matthew Browne makes explicit this sense of the ideal sleeping circumstances:

My notion of a *perfect* Bed would be to go to sleep swimming, or rocked on the top of a tree – that would unite perfect elasticity with the perfect independence of the body. But in a feather-bed, you feel as if you were

going to become part of the apparatus, and to quote the great American pantheist again, though in a very different connection – you lose your individuality in a ‘mush of concession’. (1872: 184; original emphasis)¹⁷

For Browne, the perfect bed would be an apparatus premised on the preservation of the independence and individuality of the sleeper against all threats to reduce it to a ‘mush of concession’. The phrase is taken from an essay by Ralph Waldo Emerson, the American transcendentalist advocate of individualism, and used by Browne to repudiate an undifferentiated state of compromise, negotiation, connection, or other form of subservient relationality.¹⁸ In Browne’s fantasy, the perfect bed produces conditions akin to a state of asociality, the sleeper removed from all earthly nets and snares, suspended in total, natural and elemental isolation, cast away on the ocean or perched on a tree top.

Separate sleeping was the most secure way for all, including married couples, to guard against incursions by the other. For Foote, ‘the reasons why married people should sleep apart are peculiarly striking and important’ (1896: 868), and for Stall, ‘oftentimes separate apartments, are essential’ for them ([1897?]: 100). However, for those unwilling to give up the sociable pleasures of the shared bedroom, twin beds offered a satisfactory ‘partial reform’ (Foote 1896: 868), introducing a *cordon sanitaire* between bedfellows which promised a prophylactic hygiene based in the separation and autonomy they introduced. This regimen sought to exclude not only potential disease and malaise, but also the unseen currents running between co-sleepers, thereby delivering the couple to the rational and sensible choices of the waking world, where they might safely greet each other, as Foote had recommended, with a respectful handshake.

While intense scrutiny was afforded the circumstances of sleep – the bedroom, the mattress, the bedclothes – surprisingly little attention was given to the sleep to which these gave rise. The quality of sleep, its restfulness or capacity to restore, was important to these writers, but not principally as a source of health. Instead, sleep was significant because of its capacity to expose the powerful but invisible forces at work in the bedroom – air and vital electricity – which might injure the sleeper. A hygienic bedroom was not important for the restful sleep it might confer. Rather, the quality of sleep was an index for evaluating the bedroom environment. For domestic sanitarians and heterodox practitioners, the sleeping body was an instrument for the detection of environmental danger. Loss of vital electricity would leave one feeling ‘fretful, peevish, and discouraged’ (*The Penny Illustrated Paper* 30 March 1872: 203), the presence of those feelings exposing the loss of vital energy. Similarly, an unhealthy environment could be extrapolated from unwholesome and unsatisfying sleep. Sleep is of interest as it can unveil the

truth about the environment, rather than the environment being of interest because of its capacity to affect sleep, whether for good or ill.

As so often is the case, Richardson serves to exemplify this process. Recounting a visit to a seaside resort he notes that, over several nights, he awoke in the morning feeling cold, nauseous and with an oppressive headache. Opening the window more widely made no difference. He questioned whether he might be getting ill, or had eaten something that disagreed with him, but the answer to each question was negative. Still perplexed, on the third night he had a dream:

I was a boy again, and I was reading the story, so I dreamt, of Philip Quarles, who, like Robinson Crusoe, was lost on a desolate island, and who could not sleep on a pillow stuffed with the feathers of certain birds which he had killed, and the feathers of which he had used for a pillow. The dream led me to examine the pillow on which my own head reclined. ... It turned out that the pillow and bolster had been recently made up with imperfectly dried feathers, and some of these were undergoing decomposition. (Richardson 1880: 4.382)

In this briskly practical pre-Freudian interpretation, Richardson's dream saves him from the dangers of sleep, and the failure of his domestic sanitarian detective work is redeemed by the very state of oblivion which made him so vulnerable.¹⁹ Philip Quarles (more properly Quarll), the hero of a popular Crusoe-esque narrative *The Hermit* (1727), is the perfect analogical figurehead for the domestic sanitarian quest to become omniscient master of a solitary territory, and Richardson's dream leads him to diagnose correctly the source of his malaise. His sleeping body, it transpires, is alert to the 'sulphur-ammoniacal odour' of the pillow as his waking mind is not, and his dream provides a bridge between the two. The quality of his sleep allows him to gauge the safety or toxicity of his environment; his dream allows him to diagnose the problem. Not only does a wholesome environment produce wholesome sleep, so, conversely, restful sleep is itself a reassuring sign of a healthy environment.

Sleep is an important index of health, but few sleepers will be gifted a diagnostic dream such as Richardson's. More commonly, sleep deserves attention because unconsciousness is a state during which the guard is down and the sleeper unable to exercise reason and caution. Therefore, the physical circumstances of sleep – the position of the bedchamber, its ventilation, the filling of the mattress, the proximity of a co-sleeper – warrant discussion insofar as they can ensure the purity of the environment, determine the quality of sleep and safeguard the sleeper. Sleep is a time of particular vulnerability, and is of interest if it enables it to be designed out of the environment.

There is no sense in the work of these writers, therefore, of sleep as a complex phenomenon whose quality is determined by a range of factors, only some of which are environmental and within the sleeper's control. Even a book promising a more sustained investigation of the phenomenon, Walter Whitty Hall's *Sleep*, turns out to be much more interested in all the material co-ordinates of a generally healthy regimen – air, moderation of the appetites, cleanliness, sunlight and so on – than in sleep itself, which remains a curiously marginal player in the dramas of moral and social improvement with which the book is more concerned. For Hall, the health advantages of twin beds result from the interruption of magnetic exchange, from their facilitation of a regular sleep regime, and from their capacity to refine the circumstances of sleep in line with individual preferences in a way that is impossible when sharing a bed:

It is a well-known fact that some persons require more bed-clothing than others; one feels so much oppressed as not to be able to sleep with an amount of covering which leaves another in so chilly a condition as to make refreshing sleep an impossibility. A high hard bolster is essential to the comfort of one, while another is incommoded by a slight elevation of the head during sleep. There are cases not a few where one person can not sleep with a window up without especial bodily suffering for some time afterwards; others feel as if they would suffocate, or are in a process of certain poisoning, unless the windows are hoisted to their fullest capacity for the admission of an abundant supply of out-door air. In all these varieties of cases, there does not appear to be a better and an easier remedy than that of separate beds and rooms for all. (1861: 138–9)

The rationale for separate beds extends here to include not only the interruption to the equalization of magnetic forces, but also to allow for more prosaic individual preferences for warmth and fresh air. Foote objected to any 'continuousness of bolster' because of the deleterious interchange of electricities this allowed. For Hall, an additional objection would have been that such a continuousness would be unlikely to suit the preferences of both. The benefits to health of twin beds result not only from the avoidance of the exhaled breath of the other, or of their sapping of one's vital force, but also from the fine-tuning of the environments optimal for each. Health and comfort in bed can best be achieved by greater and greater individuation, and separation from the threats and nuisances introduced by other people.

Domestic sanitarians and fringe practitioners were not the only late nineteenth-century commentators to write about sleep. Nor, indeed, did all such commentators subscribe to twin beds. Dr J. C. Atkinson, for example, took a broadly sanitarian stance, and rehearsed at length the necessity of

clean air, natural light and the relative merits of the feather bed and the horsehair mattress, but did not conclude that twin beds needed to be part of the hygienic regime. He noted only that 'it is not conducive to health for more than two to sleep together on a bed', adding rather opaquely that 'in the domestic economy of comparatively barbarous nations, it is a common practice for every individual to have a separate cover' (Atkinson 1867: 43–4) – although whether by this he intended that we should emulate the closer-to-nature practices of the barbarous or eschew them for their unreconstructed primitivism is unclear. In some other guides to sleep, the vexed question of double versus twin is absent; whatever renders sleep more restful, restorative and reliable is not to be decided by sharing a bed or sleeping alone.²⁰ More concerned with sleep as a route to health than as a diagnostic indicator of other health-related concerns, these books tended to share Atkinson's more direct approach to the subject: 'Sleep is so identified with health that one is the necessary consequence of the other, in fact, it may be said to mean one and the same thing, for we cannot be in good health without being capable of enjoying sound and refreshing sleep, and if we sleep well we cannot be otherwise than in good health' (ibid.: 17). In the accounts of Atkinson and others who shared his view, sleep is not a mediator of other bodily, affective or environmental states, but a good and healthy practice in its own right. How and where this might best be achieved is important, but whether it be in a double or a twin bed irrelevant.

The advocacy of twin-bedded sleep for couples was never universal, even among domestic sanitarians. Nor did twin beds ever entirely oust the double in the bedrooms of married couples, or in the marketing materials of the stores that sold bedsteads and mattresses to them. These two forms of conjugal sleep existed side by side, for some easily, for others as a source of contention and dispute, for much of the twentieth century. What remains striking is just how much ground was gained by twin beds and how long it was held. The end of the nineteenth century brought with it the final demise of miasma theory as an explanation of the disease transmission. Nonetheless, neither the doctors nor the householders who favoured twin beds saw any need to abandon their allegiance. Instead, a new rationale for them was found: the manifest modernity of twin beds.