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“Visceral Consciousness”: The Gut-Brain Axis in Sleep and Sleeplessness in Britain and America, 1850–1914

KRISTIN D. HUSSEY

SUMMARY: Sleeplessness was a quotidian yet challenging problem for medical practitioners in Britain and America in the nineteenth and early twentieth centuries. While physiologists endeavored to unravel the secrets of sleep by examining the brain, in the clinic doctors looked to the gut as a site through which sleeplessness was both caused and cured. This article explores the gut-brain axis in medical literature on sleep and sleep loss in this period. It argues that despite the lack of a coherent understanding of the gut-brain connection, the digestive system was central to how physiologists and clinicians approached sleeplessness. It employs Victorian physician Joseph Mortimer Granville’s (1833–1900) concept of “visceral consciousness” to better understand the varied and often contradictory explanatory constellations that emerged to elucidate the role of digestion in sleeplessness.

KEYWORDS: digestion, physiology, gut-brain axis, sleep, sleeplessness, therapeutics, Victorian

Sir—For three and a half years I have suffered from insomnia, which has played sad havoc with me, and I should like, for the benefit of others, to say how I nearly cured myself in six months. I tried chloral, sulphonal, bromide of potassium, hot baths before going to bed, and other remedies without real success. I have no doubt that my sleeplessness was due to insufficient change of air and exercise, but above all to the habit I had long followed of going to bed on an empty stomach. I removed from the city atmosphere into a pleasant suburb. I walk instead of riding whenever the weather and the exigencies of my professional occupations will allow, and instead of going to bed supperless (under the erroneous notion that during sleep the digestive powers ought to be absolutely at rest) I take a small bottle of stout, or glass of claret, and half a dozen wheatmeal biscuits, and sound and refreshing sleep, for from six to eight hours, now invariably follows.

—M. B. C., letter to the editor of the *Westminster Gazette*, August 4, 1894

In August 1894, a barrister from the Middle Temple wrote to the London newspaper the *Westminster Gazette* to share his personal cure for insomnia. Widely read in the city's West End "clubbable" circles of politicians, professionals, and aristocrats, the entry stimulated a glut of letters to the editor suggesting personal remedies for the malady that seemed to be wreaking havoc on the metropolis's "brain-workers": sleeplessness.¹ While undoubtedly the respondent linked his inability to sleep to the demands of his professional life, its cure was to be found not in the brain but in the stomach. In highlighting a widespread anxiety linking eating and sleep loss, the author indicated the deeply entangled nature of brain and gut

¹ Different terminology was used to refer to a loss of or disturbance of a regular sleep schedule. In the early modern period, this phenomenon was referred to as "watching" or "wakefulness," and these terms were still used occasionally in the mid-nineteenth century. "Sleeplessness" became the preferred term by the 1860s and 1870s, but by the 1890s "insomnia" was more widely in use. However, to avoid confusion with studies of "insomnia" as a distinct clinical entity, I use "sleeplessness" and "sleep loss" as my preferred terms.

prevalent in British and American sleep hygiene and medicine in the nineteenth and early twentieth centuries.

Victorian and Edwardian doctors bemoaned the lack of serious attention being paid to sleeplessness, even though it was “one of the commonest troubles the medical practitioner is called upon to treat.”² Despite its ubiquitous place in the human experience, sleep loss has received similarly scant historical attention.³ While often treated in passing as a part of wider discussions about neurasthenia and nervous diseases,⁴ work on sleeplessness specifically, its

² Joseph Mortimer Granville, “A Plea for the Classification and Detailed Study of Mental and Sensory Causes, or Forms, of Sleeplessness,” *Lancet* 116 (1880): 333–36, quotation on 333.

³ With a new notable exceptions, including Kenton Kroker, *The Sleep of Others and the Transformation of Sleep Research* (Toronto: University of Toronto Press, 2007); Lee Scrivner, *Becoming Insomniac: How Sleeplessness Alarmed Modernity* (Basingstoke: Palgrave Macmillan, 2014); Sasha Handley, *Sleep in Early Modern England* (New Haven, Conn.: Yale University Press, 2016); and the contributions of Sally Shuttleworth and others to a recent themed edition of *Interface Focus* 10 (2020).

⁴ Roy Porter and Marijke Gijswijt-Hofstra, eds., *Cultures of Neurasthenia: From Beard to the First World War* (Amsterdam: Rodopi, 2001); Janet Oppenheimer, “*Shattered Nerves*”: *Doctors, Patients and Depression in Victorian England* (Oxford: Oxford University Press, 2001); David G. Schuster, *Neurasthenic Nation: The Medicalization of Modernity in the United States, 1869–1920* (Berkeley: University of California Press, 2006); Alan Derickson, *Dangerously Sleepy: Overworked Americans and the Cult of Manly Wakefulness* (Philadelphia: University of Pennsylvania Press, 2014); Amelia Bonea, Melissa Dickson, Sally Shuttleworth, and Jennifer Wallis, *Anxious Times: Medicine and Modernity in Nineteenth-Century Britain* (Pittsburgh: University of Pittsburgh Press, 2019).

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causes, diagnosis, and treatment, is sparse.⁵ Furthermore, the role of food and digestion as a causative and curative factor of sleep loss of the nineteenth and early twentieth centuries has been entirely overlooked. This article explores medical discourses around the gut-brain axis in medical literature on sleep and sleeplessness in the Anglo-American world. It contends that in the absence of a clear understanding of the connection between brain and digestion in sleep loss, new explanatory constellations emerged that helped doctors to rationalize diagnostic and therapeutic approaches to this common and troubling health problem.

Physicians had always believed that sleep was essential to health.⁶ By the nineteenth century, practitioners from emergent fields like neurology, psychiatry, and physiology all staked a claim on the subject and their unique ability to unravel its mysteries. In the clinic, the therapeutics of sleep medicine continued to rely on surprisingly resilient practices of regimen drawn from Galen's six "non-natural" things (voluntary behaviors or habits that influence health), despite the increasing tendency to view sleep as a "nervous" phenomenon.⁷ Physicians and physiologists presented conflicting interpretations of the physical mechanisms

⁵ Scrivner, *Becoming Insomniac* (n. 4); Karen B. Stovas, "Sleep and Sleeplessness in the Victoria Novel, Jane Eyre to Dracula" (Ph.D. diss., Claremont Graduate University, 2011); Sally Shuttleworth, "Fagged Out: Overwork and Sleeplessness in Victorian Professional Life," *Interface Focus* 10 (2020): 20190088; Sasha Handley, "Accounting for Sleep Loss in Early Modern England," *Interface Focus* 10 (2020): 20190087.

⁶ Handley, *Sleep in Early Modern England* (n. 4).

⁷ William MacLehose, "Sleepwalking, Violence and Desire in the Middle Ages," *Cult. Med. Psychiatry* 37 (2013): 601–24; Handley, *Sleep in Early Modern England* (n. 4); William MacLehose, "Historicising Stress: Anguish and Insomnia in the Middle Ages," *Interface Focus* 10 (2020): 20190094.

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of sleep, the role of the brain, the influence of the viscera, and the meaning of dreams.

Making sense of these disparate approaches to the gut-brain axis presents the historian with a difficult task. In this article, I suggest we can look to Joseph Mortimer Granville's (1833–1900) concept of “visceral consciousness” as a guiding thread through the slippery subject of sleep.⁸ In this phrase, Granville blended contemporary neurological understandings of the body, in which “sensible” nerves allowed the organs to be constantly in conversation with brain, while at the same time highlighting the importance of the viscera and the digestive processes as a foil to, or even subversive of, the nervous body. In approaching sleeplessness as a complex psycho-gastric malady, Granville joined a much wider dispute among his contemporaries along the contentious divides of psychic and somatic illness, mechanical and nervous bodies, and medicine as a “science” or an “art.”⁹

“Visceral consciousness” is a useful tool for analyzing the gut-brain axis in sleep in three key ways. First, in Granville's original sense, the phrase highlights that the causes of sleeplessness (and therefore its treatment) were felt to lie somewhere between gut and brain. Second, it can be a reminder that Victorian doctors (and their patients) were highly conscious of their viscera, in sleep medicine specifically but also in health and disease more generally. Third, a look to “visceral consciousness” can serve as a challenge to the history of medicine, which still could do more to think from the gut.

⁸ Granville, “Plea for the Classification” (n. 3), 334.

⁹ Christopher Lawrence, “Incommunicable Knowledge: Science, Technology and the Clinical Art in Britain, 1850–1914,” *J. Contemp. Hist.* 20 (1985): 503–20; Elizabeth A. Williams, *Appetite and Its Discontents: Science, Medicine and the Urge to Eat, 1750–1950* (Chicago: University of Chicago Press, 2020), 111–12.

Rich historiographies of neurology, psychiatry, and asylums attest to the perennial draw of the brain as a subject for medical historians.¹⁰ Among this sea of historical interest, studies that foreground the gut and digestive health are still comparatively few. However, a growing group of scholars have turned their attention to alimentary medicine, digestion, and bowel diseases—arguing, as Jonathan Andrews and James Kennaway have, that historians have been “too keen to emphasize the shift away from the gut to the nerves.”¹¹ Scholars of this visceral history have demonstrated how, in different periods, digestion, bowel disease, and bodily practices of eating were central to conceptions of self, health, and society. Literary scholars working in the early modern period have contended that food and digestion were an “intrinsic part” of culture,¹² citing it as a crucial historical moment in which Galenic holism

¹⁰ Michel Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason*, trans. Richard Howard (London: Tavistock, 1967); Roy Porter, *Madness: A Brief History* (Oxford: Oxford University Press, 2002); Fernando Vidal, “Brainhood, Anthropological Figure of Modernity,” *Hist. Hum. Sci.* 22 (2009): 5–36; Nikolas Rose and Joelle M. Abi-Rached, *Neuro: The New Brain Sciences and the Management of the Mind* (Princeton, N.J.: Princeton University Press, 2013); George Makari, *Soul Machine: The Invention of the Modern Mind* (New York: Norton, 2015); Stephen T. Casper and Delia Gavrus, eds., *The History of the Brain and Mind Sciences: Technique, Technology, Therapy* (Rochester, N.Y.: University of Rochester Press, 2017).

¹¹ James Kennaway and Jonathan Andrews, “‘The Great Organ of Sympathy’: ‘Fashionable’ Stomach Complaints and the Mind in Britain, 1700–1850,” *Soc. Hist. Med.* 32 (2019): 57–79, quotation on 59.

¹² Rebecca Anne Barr, Sylvie Kleiman-Lafon, and Sophie Vasset, “Introduction: Entrails and Digestion in the Eighteenth Century,” in *Bellies, Bowels and Entrails in the Eighteenth Century*, ed. Rebecca Anne Barr, Sylvie Kleiman-Lafon, and Sophie Vasset (Manchester: Manchester University Press, 2018), 1–22, quotation on 1.

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and Cartesian dualism were being negotiated.¹³ Mind and body were closely interconnected, and the stomach was understood as the seat of emotions.¹⁴ These authors suggest that the entrails were an essential point of contact between inner and outer worlds, and that practices of eating were quite literal means of self-fashioning.¹⁵ Alimentary medicine was indispensable to both lay and educated practitioners alike.¹⁶

In the eighteenth century, brain and gut remained closely intertwined, with their relationship articulated through a language of “sensibility”—emotions were linked to digestive disease and bowel distress becoming connected to luxurious living and consequent nervous disorder.¹⁷ While the development of physiology in the nineteenth century

¹³ Michael C. Schoenfeldt, *Bodies and Selves in Early Modern England: Physiology and Inwardness in Spenser, Shakespeare, Herbert, and Milton* (Cambridge: Cambridge University Press, 1999).

¹⁴ David A. Hillman, *Shakespeare's Entrails: Belief, Skepticism, and the Interior of the Body* (Basingstoke: Palgrave Macmillan, 2007); Laura Johnson, John Sutton, and Evelyn Tribble, eds., *Embodied Cognition and Shakespeare's Theatre: The Early Modern Body-Mind* (Abingdon: Routledge, 2014).

¹⁵ Schoenfeldt, *Bodies and Selves in Early Modern England* (n. 14), 21.

¹⁶ Ken Albala, “Food for Healing: Convalescent Cookery in the Early Modern Era,” *Stud. Hist. Phil. Biol. Biomed. Sci.* 43 (2012): 323–28; Sarah Pennell, “‘A Matter of So Great Importance to My Health’: Alimentary Knowledge in Practice,” *Stud. Hist. Phil. Biol. Biomed. Sci.* 43 (2012): 418–24; David Gentilcore, *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450–1800* (London: Bloomsbury, 2015).

¹⁷ Roy Porter, “Consumption: Disease of the Consumer Society?,” in *Consumption and the World of Goods*, ed. John Brewer and Roy Porter (London: Routledge, 1993), 58–81; Anne C. Vila, *Enlightenment and Pathology: Sensibility in the Literature and Medicine of Eighteenth-Century*

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contributed to the increased centering of the brain and nervous system, scholars have shown that the stomach and bowels were simply reincorporated into this neurophysiological framework.¹⁸ Elizabeth A. Williams has spent more than a decade disentangling the perceived connection of the mind and body, brain and stomach across the cerebralist-visceralist divide.”¹⁹ Focusing on the nineteenth and early twentieth centuries, a burgeoning scholarship on the histories of food, digestion, and nutrition has revealed the continued centrality of the gut both to medicine and to culture.²⁰ Historians like Ian Miller and James

France (Baltimore: Johns Hopkins University Press, 1998); Ian Miller, “Digesting in the Long Eighteenth Century,” in Barr, Kleiman-Lafon, and Vasset, *Bellies, Bowels and Entrails* (n. 13), 62–79; Kennaway and Andrews, ““Great Organ of Sympathy”” (n. 12).

¹⁸ Miller, “Digesting in the Long Eighteenth Century” (n. 18).

¹⁹ Williams, *Appetite and Its Discontents* (n. 10), 3; Elizabeth A. Williams, “Neuroses of the Stomach: Eating, Gender and Psychopathology in French Medicine, 1800–1870,” *Isis* 98 (2007): 54–79; Elizabeth A. Williams, “Stomach and Psyche: Eating, Digestion and Mental Illness in the Medicine of Phillipe Pinel,” *Bull. Hist. Med.* 84 (2010): 358–86.

²⁰ Harmke Kamminga and Andrew Cunningham, eds., *The Science and Culture of Nutrition, 1840–1940* (Amsterdam: Rodopi, 1995); W. F. Bynum, ed., *Gastroenterology in Britain: Historical Essays* (London: Wellcome Institute, 1997); James C. Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society* (New York: Oxford University Press, 2000); Walter B. Gratzer, *Terrors of the Table: The Curious History of Nutrition* (Oxford: Oxford University Press, 2005); Christopher E. Forth and Ana Carden-Coyne, eds., *Cultures of the Abdomen: Diet, Digestion and Fat in the Modern World* (New York: Palgrave Macmillan, 2005); Ian Miller, *A Modern History of the Stomach: Gastric Illness, Medicine and British Society, 1800–1950* (London: Pickering and Chatto, 2011); Manon Mathias and Alison M. Moore, eds., *Gut Feeling and Digestive Health in Nineteenth-Century*

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Whorton have challenged the primacy of the brain in Victorian medicine and demonstrated the centrality of the abdominal organs to medical and surgical practice and patient experience in both Britain and America in this period.²¹ Yet these works deal mostly directly with the abdomen and its illnesses—leaving the broader implications of visceral history on other areas of medicine underexplored. Taken together, the subjects of diet and sleeplessness can open up new avenues for exploring how physicians viewed the engagement between gut and brain as central to the causation and treatment of sleeplessness.

Histories of sleep and neurasthenia have generally assumed a brain-centric approach reflective of a twentieth-century conceptualization of the brain as the pinnacle of selfhood.²² Yet such a paradigm does not accurately reflect contemporary medical frameworks where the gut was equally, if not more, important than the brain.²³ Indeed, recent historical research is demonstrating the utility of “thinking from the gut” to re-enliven the study of nervous

Literature, History and Culture (Cham: Palgrave Macmillan, 2018); Christopher E. Forth, *Fat: A Cultural History of the Stuff of Life* (London: Reaktion Books, 2019); Williams, *Appetite and Its Discontents* (n. 10).

²¹ James C. Whorton, “Civilisation and the Colon: Constipation as the ‘Disease of Diseases,’” *Brit. Med. J.* 321 (2000): 1586–89; Whorton, *Inner Hygiene* (n. 21); Miller, *Modern History of the Stomach* (n. 21).

²² L. S. Jacyna, “Somatic Theories of Mind and the Interests of Medicine in Britain, 1850–1879,” *Med. Hist.* 26 (1982): 233–58; Vidal, “Brainhood” (n. 11).

²³ Barr, Kleiman-Lafon, and Vasset, “Introduction” (n. 13), 4; Whorton, *Inner Hygiene* (n. 21); Miller, *Modern History of the Stomach* (n. 21).

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disorders.²⁴ As contemporary interest grows in the gut-brain connection, one is left to wonder whether these ideas are new or whether we are simply seeing a resurgence of a very old idea.²⁵ By disentangling sleeplessness from discussions of neurasthenia and highlighting the role of food and digestion, this article contributes to historiographies of sleeplessness and diet in the Victorian and Edwardian periods. Through an analysis of medical texts on sleep loss, it demonstrates how being “viscerally conscious” can serve as a useful tool for highlighting the messy, interconnected ways that Victorian and Edwardian physicians in Britain and America conceived of the gut-brain axis in sleep and sleeplessness.²⁶

²⁴ Hisao Ishizuka, “Carlyle’s Nervous Dyspepsia: Nervousness, Indigestion and the Experience of Modernity in Nineteenth-Century Britain,” in *Neurology and Modernity: A Cultural History of Nervous Systems, 1800–1950*, ed. Laura Salisbury and Andrew Shail (Basingstoke: Palgrave, 2010), 81–95; Ian Miller, “The Gut-Brain Axis: Historical Reflections,” *Microb. Ecol. Health Dis.* 29 (2018), <https://doi.org/10.1080/16512235.2018.1542921>; Shuttleworth, “Fagged Out” (n. 6).

²⁵ Emily Teichman et al., “Where Rhythms Meet the Blues: Circadian Interactions with the Microbiota-Gut-Brain-Axis,” *Cell. Metab.* 31 (2020): 448–71; Niall Hyland and Catherine Stanton, eds., *The Gut-Brain Axis: Dietary, Probiotic and Prebiotic Interventions on the Microbiota* (Amsterdam: Elsevier, 2016); Rodney R. Dietert, *The Human Superorganism: How the Microbe Is Revolutionizing the Pursuit of a Healthy Life* (New York: Dutton, 2016); Mark Lyte and John F. Cyran, eds., *Microbial Endocrinology: The Microbiota-Gut-Brain Axis in Health and Disease* (New York: Springer, 2014); Ed Yong, *I Contain Multitudes: The Microbes Within Us and a Grand View of Life* (New York: Random House, 2016).

²⁶ This study is limited in its geographical scope to Britain and America—which have a very particular tradition of “nervous diseases” like sleep loss as well as very culturally specific dietary

Sleep, Physiology, and Circulation

“It seems impossible,” Sir Benjamin Brodie mused, “that we should know in what that difference [between the waking and sleeping state] consists, when we consider that neither our unassisted vision, nor the microscope, nor chemical analysis, nor any analogy, nor any other means at our disposal enable us to form any kind of notion as to the actual changes in the brain or spinal cord in which any other nervous phenomena depend.”²⁷ The secrets of the brain in sleep still seemed far beyond the grasp of science as the nineteenth century dawned. Until the invention of equipment that facilitated the direct observation of brain activity, investigations of sleep were necessarily built on subjective individual experience.²⁸ However, from the mid-nineteenth century new anatomical, physiological, and histological approaches allowed the brain to go “under the knife,” and new research aimed to unravel the mysteries of sleep.²⁹ In the 1860s, American neurologist William Alexander Hammond (1828–1900) and British surgeon Arthur Edward Durham (1833–95) employed the tools of physiology to

practices. Undoubtedly, a similar study in other regions would be revealing of different cultural attitudes towards food, health, and sleep.

²⁷ Sir Benjamin Brodie, quoted in Arthur L. Durham, “The Physiology of Sleep,” *Guy’s Hosp. Rep.* 21 (1860): 149–73, quotation on 150.

²⁸ Kroker, *Sleep of Others* (n. 4), 15.

²⁹ Heini Hakosalo, “The Brain under the Knife: Serial Sectioning and the Development of Late Nineteenth-Century Neuroanatomy,” *Stud. Hist. Phil. Biol. Biomed. Sci.* 37 (2006): 172–202; Jennifer Wallis, *Investigating the Body in the Victorian Asylum: Doctors, Patients and Practices* (New York: Palgrave Macmillan, 2017).

postulate that the sleep state was the result of “cerebral anaemia”—a lack of blood in the brain.³⁰ Yet these experimental perspectives on sleep’s physiology were not universally convincing, particularly among elite physicians who in the clinic continued to place an emphasis on personal experience and individual constitution in their treatment of patients suffering from sleep loss.

As historians like Sasha Handley and A. Roger Ekrich have observed, sleep is not a unified biological process but a historically and socially contingent practice that needs to be understood in its contexts.³¹ Sleep in the Western medical tradition is associated mainly with the work of the ancient Greek physicians Hippocrates and Galen—in particular, Galen’s conception of the *sex res non naturales*, or the six “non-natural” things.³² In order to maintain health and ward off disease, people needed to carefully monitor their intake of food, habits of sleeping and waking, physical exercise, frequency of “excretion” (urination and defecation), access to clean air, and regulation of sexual activities and “passions” (emotions). The stomach was accorded a primacy among the bodily organs reflective of its importance in sustaining life as the seat of digestion. In this humoral paradigm, the process of digestion was

³⁰ Bonnie Ellen Blustein, “The Brief Career of ‘Cerebral Hyperaemia’: William A. Hammond and His Insomniac Patients, 1854–1900,” *J. Hist. Med. Allied Sci.* 41 (1986): 24–51.

³¹ A. Roger Ekrich, *At Day’s Close: A History of Nighttime* (London: Phoenix, 2006); Handley, *Sleep in Early Modern England* (n. 4).

³² Andrew Wear, “Medicine in Early Modern Europe, 1500–1700,” in *The Western Medical Tradition, 800 BC to AD 1800*, ed. Lawrence I. Conrad, Michael Neve, Vivian Nutton, Roy Porter, and Andrew Wear (Cambridge: Cambridge University Press, 1995), 215–361; Handley, “Accounting for Sleep Loss in Early Modern England” (n. 6).

seen as the direct instigator of sleep. When foodstuffs were indigested, it was believed that the body would heat itself in order to break down the material and “concoct” it into nutritious blood for the organs to consume. This heating process in the stomach produced vapors rising to the head, where they would condense, subsequently cooling the brain and inducing the sleep state.³³ How much sleep a person needed to maintain health depended on the individual’s age, gender, and constitution, and how these factors affected the body’s power of digestion.

By the close of the seventeenth century, new works in philosophy and medicine had begun to challenge the humoral conception of the body as an open system, mediated by the stomach. While historians have challenged a simplistic narrative that saw the stomach unseated by the brain with the rise of anatomical investigations in the early modern period,³⁴ the work of anatomists like William Harvey (1578–1657) on the circulatory system undoubtedly drove a shift toward “somatic closure.”³⁵ The neurological studies of Thomas Willis (1621–75), William Cullen (1710–90), and Thomas Arnold (1742–1816) presented the nervous system as central to human health—placing the brain at its apex. For Cullen, sleep arose from the need for the nerves to rest. Diseases like sleeplessness were interpreted as “neuroses”—functional illnesses that originated in the nerves.³⁶ Yet, as Miller has argued, the

³³ Handley, *Sleep in Early Modern England* (n. 4), 35.

³⁴ Miller, “Digesting in the Long Eighteenth Century” (n. 18), 73.

³⁵ Hillman, *Shakespeare’s Entrails* (n. 15), 7.

³⁶ W. F. Bynum, “Nosology,” in *Companion Encyclopedia of the History of Medicine*, ed. William F. Bynum and Roy Porter (New York: Routledge, 1993), 335–56, quotation on 346.

bowel did not disappear in this new nervous paradigm but was simply reconfigured.³⁷

Eighteenth-century neurologist Robert Whytt (1714–66) developed the concept of nervous “sympathy” to explain how the organs of the body interacted with each other, thereby creating a mechanism for a brain-gut connection in neurology.³⁸ Many other influential physicians, perhaps most importantly George Cheyne (1672–1743), were less radical in adopting a strict neurological position and advocated for continuing humoralist practices of regimen in sleep, diet, and exercise.³⁹

As the nineteenth century dawned, sleep and circulation had become closely intertwined. Most physiologists agreed that sleep was the result of cerebral “congestion,” caused by the compression of the cerebellum or a rush of blood to the brain that occurred when the body was reclining in bed.⁴⁰ Hammond and Durham sought to overturn this belief—arguing instead that the sleep state was the result of blood moving away from the brain. The simplicity and consistency of what became known as the theory of “cerebral anemia” with older anatomical traditions of circulation meant that it found wide appeal among medical practitioners. In the closing decades of the century, Italian physiologist

³⁷ Miller, “Digesting in the Long Eighteenth Century” (n. 18), 73.

³⁸ Miller, *Modern History of the Stomach* (n. 21), 13.

³⁹ Steven Shapin, “Trusting George Cheyne: Scientific Expertise, Common Sense, and Moral Authority in Early Eighteenth-Century Dietetic Medicine,” *Bull. Hist. Med.* 77 (2003): 263–97; Anita Guerrini, *Obesity and Depression in the Enlightenment: The Life and Times of George Cheyne* (Norman: University of Oklahoma Press, 2000).

⁴⁰ Joseph Mortimer Granville, *Sleep and Sleeplessness: Sleep, Going to Sleep, Awakening, Sleeplessness, Sleep and Food* (London: David Bogue, 1879), 1.

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Angelo Mosso (1846–1910) seemed to have settled the question in favor of “cerebral anemia” using a new arsenal of equipment including the kymograph to verify Hammond and Durham’s earlier results. While many physicians and physiologists were critical of cerebral anemia, it nevertheless remained a constant touchstone in the science of sleep well into the twentieth century. As prominent American sleep researcher Nathaniel Kleitman (1895–1999) bemoaned in 1939: “The idea of cerebral anemia as a cause of sleep refuses to die.”⁴¹

Working as a surgeon at the prestigious Guy’s Hospital in London, Durham was one of a group of British anatomists who turned their attention to the experimental physiology of sleep in the mid-nineteenth century. In his seminal piece published in *Guy’s Hospital Reports*, Durham revealed the results of a series of experiments performed on anaesthetized dogs. After drilling away sections of skull that were then fitted with air-tight viewing windows, Durham observed physical changes in the brain as the dogs became unconscious, determining that the organ entered a “comparatively bloodless condition” during sleep.⁴² At the same time, across the Atlantic Hammond was developing his own theory of sleep inspired by a unique patient case.⁴³ In 1854, he was called to treat the patient whom historian Bonnie Blustein has called his “Alexis St. Martin”—a young man with a large cranial fissure resulting from a railway accident.⁴⁴ Watching the rise and fall of the fissure, Hammond hypothesized in line with Durham that there was less blood present in the brain during sleep.

⁴¹ Kroker, *Sleep of Others* (n. 4), quotation by Kleitman on 85.

⁴² Durham, “Physiology of Sleep” (n. 28), 166.

⁴³ William A. Hammond, “Original Communication: On Sleep and Insomnia,” *New York Med. J.* 1 (1865): 89–101.

⁴⁴ Blustein, “Brief Career of ‘Cerebral Hyperaemia’” (n. 31), 25.

He went on to test his theory with a series of experiments in dogs and other animal subjects: watching the physical changes undertaken by the brain during consciousness and unconsciousness. The biological purpose of this relative inactivity, both agreed, was to allow time for rest and “nutrition” of the brain as well as the metabolism of damaged or decomposing brain tissue. It was an approach that moved sleep far from the realm of the metaphysical, without being overly mechanistic.⁴⁵

The idea that sleep was the result of a lack of blood in the brain came to be known as the theory of cerebral anemia, and it had wide-reaching ramifications on both physiological research and clinical practice in this period. If the sleep state was caused by the flowing of blood away from the brain then, logically, sleeplessness was the result of too much blood remaining in the brain at bedtime. An excess of blood on the brain over time would stretch or wear out the nerves. Hammond liberally diagnosed the disease he called “cerebral hyperaemia” in his sleepless New York City clientele.⁴⁶ By the end of the century, the concept of too much blood in the brain became absorbed into a broader understanding of neurasthenia as a pathology of brainwork—in which excessive mental work or emotions overloaded the brain with blood, impeding sleep.

The pervasiveness of the theory of cerebral anemia in medical writing demonstrates the nineteenth-century shift toward a “new naturalistic account of the mind”—in which the

⁴⁵ Ibid., 26.

⁴⁶ William A. Hammond, *Cerebral Hyperaemia: The Result of Mental Strain or Emotional Disturbance* (New York: G. P. Putnam’s Sons, 1878).

workings of the brain were understood along physiological lines.⁴⁷ However, strong divisions still existed between practitioners in their “attitudes, goals and standards and especially in its definition, evaluation and use of science.”⁴⁸ While physiology was widely acknowledged as the foundation of rational, scientific medicine, exactly how such experimental findings should be applied in a clinical setting was the source of much disagreement. Accordingly, approaches to the diagnosis and treatment of sleeplessness were varied and often contradictory. A focus on medical texts on sleeplessness and popular advice manuals for sleep provides a rich terrain for exploring Victorian and Edwardian cultural constructions of sleeplessness and its situation within wider practices of sleep hygiene and understandings of the brain-gut connection.

Digestion and the Causation of Sleeplessness

The role of the gut as an instigator of sleep loss has a long history. In the eighteenth century, William Cullen observed, “Persons who labour under a weakness of the stomach, as I have done for a great number of years past, knowing that certain foods, without their being conscious of it, prevent sleeping.”⁴⁹ In the early nineteenth century, British medical doyen Sir Henry Holland expounded, “No rules are more important than such as apply to the relation

⁴⁷ Christopher Lawrence, *Medicine in the Making of Modern Britain, 1700–1920* (London: Routledge, 1994), 58.

⁴⁸ Lawrence, “Incommunicable Knowledge” (n. 10), 503.

⁴⁹ Charles Murchison, “The Croonian Lectures on Functional Derangements of the Liver,” *Lancet* 103 (1874): 535–39, quotation on 538.

between digestion and sleep.”⁵⁰ By the 1870s, the eminent Sir Dyce Duckworth was confident in declaring, “Dyspepsia is not only one of the commonest, but also one of the least recognized, of the causes of sleep loss.”⁵¹ Despite the move away from Galenic ideas and toward the insights of physiology, Ian Miller has argued that “an intimate relationship between the stomach and the psyche . . . was far from being laid to rest by mechanical models . . . which emphasized brain and nerves.”⁵² But how exactly was indigestion believed to be acting to cause sleeplessness? And how might this fit in with physiological theories about circulation, nerves, and sleep causation? While searching for one coherent explanation in the cacophony of medical writings on sleeplessness would be an impossible task, sleeplessness and indigestion often occupied the same conceptual space. To that end, English physician Joseph Mortimer Granville’s formulation of “visceral consciousness” can serve as a thread through these messy debates—illuminating the connections between the brain and gut in paradigms of sleep loss.

Granville does not appear often in histories of Victorian medicine. A graduate of the University of St Andrews in Scotland, he never achieved the status of fellow of the Royal College of Physicians or the Royal Society, although he did serve for a time on the editorial board of the *Lancet*.⁵³ Today he is generally remembered as the inventor of the vibrator (as a

⁵⁰ Henry Holland, *Medical Notes and Reflections*, 2nd ed. (London: Longman, Orme, Brown, Green and Longmans, 1840); Dyce Duckworth, *Observations on the Causes and Treatment of Certain Forms of Sleeplessness* (London: Longmans, Greens, 1874), 9.

⁵¹ Duckworth, *Observations on the Causes and Treatment* (n. 51), 9.

⁵² Miller, “Digesting in the Long Eighteenth Century” (n. 18), 73.

⁵³ “Obituary: Joseph Mortimer Granville,” *Lancet* 156 (1900): 1617–18.

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sex toy), although numerous authors have debunked this association.⁵⁴ Decidedly not one of Britain's medical elites, Granville joined the ranks of a growing rank of practitioners who sought to improve their status (and that of medicine) by "mak[ing] clinical medicine a science."⁵⁵ Granville was especially interested in nervous diseases and therapeutic technologies—inventing his vibrating "hammer" for the percussion of the nerves.⁵⁶ He published widely on topics related to mental disease for both clinical and public audiences, including *The Care and Cure of the Insane* (1877), *Common Mind Troubles* (1878), *The Secret of a Clear Head* (1879), and *How to Make the Best of Life* (1881).⁵⁷ In his many papers and his book *Sleep and Sleeplessness* (1879), Granville employed his knowledge of nervous diseases to push for a more nuanced and scientific understanding of sleeplessness, its causes, and its cure.

⁵⁴ Rachel P. Maines, *The Technology of Orgasm: "Hysteria," the Vibrator and Women's Sexual Satisfaction* (Baltimore, Md.: Johns Hopkins University Press, 2001); Shelley Trower, *Senses of Vibration: A History of the Pleasure and Pain of Sound* (New York: Continuum, 2012); Hallie Lieberman and Eric Schatzberg, "A Failure of Academic Quality Control: *The Technology of Orgasm*," *J. Pos. Sexual.* 4 (2018): 24–47.

⁵⁵ Lawrence, "Incommunicable Knowledge" (n. 10), 507.

⁵⁶ Joseph Mortimer Granville, *Nerve Vibration and Excitation: Agents in the Treatment of Functional Disorder and Organic Disease* (London: J. A. Churchill, 1883).

⁵⁷ Joseph Mortimer Granville, *The Care and Cure of the Insane: Being the Reports of the Lancet Commission on Lunatic Asylums*, vols. 1 and 2 (London: Hardwick and Bogue, 1877); Granville, *Common Mind Troubles* (Salem: S. E. Cassino, 1879); Granville, *The Secret of a Clear Head* (London: David Bogue, 1880); Granville, *How to Make the Best of Life* (London: David Bogue, 1881).

In 1880, Granville's "A Plea for the Classification and Detailed Study of . . . Sleeplessness" appeared in the *Lancet*. In it, he proclaimed to be repulsed by the tendency for private practitioners to treat their patients suffering from sleep loss by "stupefy[ing] the brain by opiates, chloral, or bromide of potassium."⁵⁸ Granville instead argued that there were many different forms of sleep, and therefore two main groups of sleeplessness: one resulting from issues "falling within the domain of the high Consciousness," which therefore could be corralled through exertion of the will, and a second subconscious form, which was somatic.⁵⁹ Granville argued one of the most common physical causes of sleeplessness was what he described as "visceral consciousness"—or "mental impressions arising in connection with one of more of the visceral organs," often in the form of pain, bloating, flatulence, or other discomfort.⁶⁰ These messages of pain would then be relayed to the brain via the nervous system. In short, it was often the body, not the brain, that was the problem in the case of sleep loss.

Granville's conception of the brain-gut connection emerged from a longer history of thinking around "gastric sympathy."⁶¹ Like medical writers earlier in the century, Granville perceived the connection of physically separate organs in the body, particularly the brain and gut, in terms of a "nervous sympathy": the spinal cord relayed messages from the viscera to the brain, which could prompt sleep disturbance or even unwelcome dreams depending on the state of the digestion. Granville believed that the viscera would "awake" before or even

⁵⁸ Granville, "Plea for the Classification" (n. 3), 333.

⁵⁹ *Ibid.*, 333.

⁶⁰ *Ibid.*, 335.

⁶¹ Miller, *Modern History of the Stomach* (n. 21), 13–14.

independently of the brain—meaning that abdominal pains or dyspepsia, communicated via the sympathetic nervous system, could lead to sleepless nights without the patient even being consciously aware of the source of the problem.⁶² Like many of his contemporaries, Granville was convinced that the digestive system could block patients from sleeping either as a result of this “sensibility” or because of the negative effects of fermentation. He observed, “The presence of undigested food in the stomach is a common cause of sleeplessness. There is no greater error than to suppose that general, and really refreshing, sleep can be obtained while the digestive organs are busy with food.”⁶³ The result of trying to sleep while the digestive organs were busy at work was unusual dreams, headaches, pain, irritation, and flatulence—all of which were calculated to disrupt repose. Overloading of the digestive system was sure to “set up irritation,” which, passed along the nervous system, disturbed sleep.⁶⁴

Granville advised his readers to be mindful of leaving sufficient time between dinner and bed so that digestion could be completed before taking their rest—avoiding disruptive fermentation of food left over in the stomach. This meant that people needed to know how long different foods might take to leave the stomach, for which he turned to the work of the “father of gastric physiology,” American Army surgeon William Beaumont (1785–1853). According to Beaumont’s experimental work, easily digestible foods included pigs’ feet, salmon, trout, and sweet apples, which had a digestion time in the region of an hour. In the middle point were eggs, oysters, beef, lamb, and bread, which required two to three hours to leave the stomach. Finally, among the most challenging foods were pork, cabbage, veal, and

⁶² Granville, *Sleep and Sleeplessness* (n. 41), 71.

⁶³ *Ibid.*, 53.

⁶⁴ *Ibid.*, 83.

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duck, taking between four and five hours. Armed with these facts, patients were advised to avoid difficult to digest foods before bed and opt instead for light meals so that “digestion should be complete or very nearly complete” before retiring.⁶⁵ Ignoring these principles was likely to lead to pain, irritation, or disruptive flatulence. Indeed, a careful moderation of the time between dinner and bedtime was a central tenet in medical approaches to sleeplessness. Glaswegian physician A. W. MacFarlane wrote that if the last meal of the day was a heavy meal “it ought to be partaken of from three to four hours before going to bed.”⁶⁶ Sir Thomas Lauder Brunton, physician to the prestigious St Bartholomew’s Hospital in London, suggested four hours should be the minimum time between dinner and bedtime.⁶⁷ Otherwise, the mere process of digestion was likely to disturb sleep through pain, sensibility, or even vomiting.

Not all practitioners agreed however—and for some going to bed hungry might even cause sleeplessness, as the respondent to the *Westminster Gazette* found in his own case. In 1870, Duckworth advised his readers, “It is almost proverbially known to be bad to go to bed fasting. Insomnia, from this cause is, of course, easily met by taking some simple food.”⁶⁸ In which case, he knew “no nutriment so suitable as well made beef tea.”⁶⁹ Decades later, Arthur Dennison Light, in his popular volume on combatting sleep loss, stated, “In my

⁶⁵ *Ibid.*, 90.

⁶⁶ A. W. MacFarlane, *Insomnia and Its Therapeutics* (London: H.K. Lewis, 1890), 73.

⁶⁷ Thomas Lauder Brunton, *On the Treatment of Sleeplessness and Pain* (unknown publisher, ca. 1890s), 4, Wellcome Library.

⁶⁸ Duckworth, *Observations on the Causes and Treatment* (n. 51), 16.

⁶⁹ Duckworth, *Observations on the Causes and Treatment* (n. 51), 17.

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opinion sleeplessness is more often due to going to bed with an empty stomach than it is going to rest with a full one.”⁷⁰ He recommended milk, beef tea, or crackers, which functioned to draw blood away from the brain to the digestive organs, and prompting sleep.⁷¹ While Christian scientist Lyman Powell was a strong believer in the power of prayer and autosuggestion, he still counselled “every insomniast” to go to bed with “beef extract or a cup of cocoa” in order to “sustain and cheer the troubled spirit.”⁷² Columnists for popular periodicals advised middle-class readers of both genders of the importance of sleep and the dangers represented by errors of diet. “Medicus”, resident physician columnist to *The Girls Own Paper*, counseled his female readers to be mindful of the “pleasures of the table,” which were likely to set up acidity and “poisoning” the blood, thereby disturbing sleep.⁷³ The medical columnist for *Cassell’s Family Magazine* opined, “Most careful regulation of diet is . . . a *sine qua non*” in preventing sleeplessness.⁷⁴ His advice to “Dine early, live plainly” would have been met with approval his fellow practitioners.⁷⁵ Clearly, it was not only what one ate, but *when*, that counted.

⁷⁰ Arthur Dennison Light, *How to Cure Insomnia or Sleeplessness* (London: Health and Vim, n.d.), 60.

⁷¹ *Ibid.*, 61.

⁷² Lyman P. Powell, *The Art of Natural Sleep* (New York: G.P. Putnam’s Sons, 1908), 34.

⁷³ Medicus, “Early to Bed, Early to Rise,” *The Girls Own Paper* (1883): 341–43, quotation on 342.

⁷⁴ A Family Doctor, “Why Can’t I Sleep?,” *Cassell’s Family Magazine* (1887): 13–15, quotation on 14.

⁷⁵ *Ibid.*, 15.

Eating the wrong foods at the wrong time often resulted in one of the most common, and potentially most embarrassing, causes of sleeplessness—flatulence. British physician Haydn Brown opined, “Chronic flatulent dyspeptics will usually be found to be poor sleepers.”⁷⁶ Such gassiness was for Brown the result of poor “digestive powers,” which permitted a slow fermentation of food in the guts and the subsequent production of wind.⁷⁷ Pent up wind could cause bloating and pain which left the patient unable to sleep. In the most severe cases, “the accumulation of gas could lead to vomiting and nausea on a nightly basis.”⁷⁸ The cure often focused on a breaking up of the fermentation through “a glass of hot water to be taken on retiring” in order to “flush the alimentary tract” as well as avoiding fermentable foods like fruit and wine.⁷⁹

Constipation was also commonly linked with sleeplessness. Powell observed that constipation was “responsible far oftener than we think of sleeplessness.”⁸⁰ The “torpid” bowel interacted with the wakeful mind in numerous ways. First, frazzled nerves meant that the nervous system was no longer able to enliven the digestion and leading to an eventual stasis of the bowels.⁸¹ Second, the distention and irritability of the bowels might act more directly by disrupting the circulation.⁸² Finally, constipation might itself instigate

⁷⁶ Haydn Brown, *Sleep and Sleeplessness* (London: Hutchinson, 1910), 44.

⁷⁷ *Ibid.*, 45.

⁷⁸ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 215.

⁷⁹ Brown, *Sleep and Sleeplessness* (n. 77), 77.

⁸⁰ Powell, *Art of Natural Sleep* (n. 73), 30.

⁸¹ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 219.

⁸² Brown, *Sleep and Sleeplessness* (n. 77), 83.

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sleeplessness through a process of “auto-intoxication,” whereby accumulated fecal material would begin to rot and its poisonous emissions were absorbed into the blood stream.⁸³ In “acute toxemia,” this overloaded blood would in turn affect the proper functioning of the brain and hinder sleep. Brown appealed to his readers that the common experience of headache as a result of constipation was proof enough of this intimate connection between congested bowels and the brain. Indeed, constipation might act to set up the dyspepsia that so many authors linked with sleep loss by contributing to congestion in the liver.⁸⁴ Therefore, Brown recommended practitioners to begin their attack on sleep loss at the liver with a dose of calomel in order to purge the digestive system.⁸⁵ Other suggestions included regular enemas and live cultures such as those found in yoghurt to counter “intestinal stagnation.”⁸⁶

Beyond the consulting room, a discourse that connected indigestion to sleep loss was widespread. A considerable number of patent medicine producers exploited the perceived link between indigestion and sleeplessness to peddle their wares. Popular British proprietary medicine Mother Seigel’s Syrup advised patients to take the remedy “daily after meals” to avoid dyspepsia, constipation, and subsequent insomnia.⁸⁷ Dr. Cassell’s tablets boasted of their ability to cure sleeplessness and indigestion, with one patient testimonial enthusing, “I had suffered for years with sleeplessness and indigestion. . . . Almost from the first [use] I felt

⁸³ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 220.

⁸⁴ Brown, *Sleep and Sleeplessness* (n. 77), 83–84.

⁸⁵ *Ibid.*, 90.

⁸⁶ *Ibid.*, 88.

⁸⁷ Advertisement, “Mother Seigel’s Syrup,” *Norwich Mercury*, January 21, 1905, 6, British Newspaper Archive.

better and stronger; and best of all, the enabled me to sleep soundly.”⁸⁸ As Sally Shuttleworth has observed, concerns over “night starvation” were harnessed to promote the sale of quasi-medicinal beverages like Horlicks and Bovril in the 1930s.⁸⁹ Companies were therefore able to capitalize twice on gut-based sleep anxieties—both by combatting errors of diet and by providing the right kinds of soothing foodstuffs for bedside consumption. While Granville grappled with his more nuanced nervous paradigm of gut-brain interaction, William Hammond persisted with a more simplistic model in which brain and body were tied together by the relative distribution of blood—with the gut serving a central role as arbiter of directional flow. “Digestion leads to sleep by drawing upon the brain for a portion of its blood. It is for this reason that we feel sleepy after the ingestion of a hearty dinner. . . . As a rule, persons who eat largely, and have good digestive powers, sleep a great deal, and many persons are unable to sleep at night till they have eaten a substantial supper.”⁹⁰

In comparison to the connection between viscera and brain via the poorly defined sympathetic action of the nervous system, Hammond’s idea seemed simple and easy to understand. Indeed, it played on a much longer cultural association of eating and sleeping. In *Dombey and Son* (1848), as in many of British novelist Charles Dickens’s stories, sleep and sleeplessness play an important role. “They made the tour of the pictures, the walls, crow’s nest, and so forth; and as they were still one little party, and the Major was rather in the

⁸⁸ Advertisement, “Dr Cassell’s Tablets,” *Daily Mirror*, July 15, 1915, 8, British Newspaper Archive.

⁸⁹ Shuttleworth, “Fagged Out” (n. 6), 8.

⁹⁰ William A. Hammond, *Sleep, Sleeplessness and the Derangements of Sleep; or, The Hygiene of the Night* (London: Simpkin, Marshall, 1892), 41.

shade: being sleepy during the process of digestion.”⁹¹ In this passage, the characters take a stroll around Warwick Castle, but Mr. Dombey’s epicurean companion, Major Joseph Bagstock, struggles to keep from dozing off—the postmeal digestive state integrally connected with the need for sleep. The relationship between sleep and digestion was mutually beneficial—blood rushing from the brain to the abdominal viscera had the effect of supporting efficient work of the “digestive juices” and allowing more nutrition to be absorbed while also bringing on sleep through cerebral anemia.⁹² Much to Granville’s chagrin, Hammond’s circulatory causation of sleep seems to have been widely influential, particularly in informing therapeutic practices. Granville judged remedies claiming to divert blood from the head to be “worse than idle.”⁹³

While it is difficult to ascertain the extent to which individual patients were aware of this circulatory versus nervous debate, the coverage of sleep loss in popular periodicals can hint at the broader discourse. The “Family Doctor” columnist of *Cassell’s Family Magazine* expounded the concept of cerebral anemia as the cause of sleep to readers: “The state of sound, healthy sleep . . . is characterized by a bloodless condition of the brain.”⁹⁴ Consequently, mental “overwork” and digestive ills were, unsurprisingly, the two most common causes of sleep loss according to the anonymous doctor. “It may be that you really

⁹¹ Charles Dickens, *Dombey and Son* (1848; Project Gutenberg, 1997), chap. 27, <http://www.gutenberg.org/files/821/821-h/821-h.htm>.

⁹² Hammond, *Sleep, Sleeplessness and the Derangements of Sleep* (n. 91), 45.

⁹³ Granville, *Sleep and Sleeplessness* (n. 41), 56.

⁹⁴ A Physician, “How to Get to Sleep at Night,” *Cassell’s Family Magazine* (1875), 378–90, quotation on 379.

have—unknown to you—some functional derangement of the liver, the stomach or the heart . . . in these cases the blood in reality will have become poisoned and contaminated with bile.”⁹⁵ The anonymous medical practitioner did not attempt a nuanced neurological argument for the gut-brain connection—instead relying on the well-trodden route of blood impurity through faulty digestion. Remedies for this state of affairs included “a small sandwich” before bed to promote sleep,⁹⁶ soda water with bicarbonate of soda to combat dyspepsia, and even the occasional “blue pill” to purge a troublesome liver.⁹⁷

Yet the theory of cerebral anemia was increasingly unconvincing to practitioners as the nineteenth century gave way to the twentieth.⁹⁸ Even among more scientifically minded physicians who placed an emphasis on physiological investigation, Hammond’s focus on circulation seemed old-fashioned and out of step with more recent work on the nervous system. Speaking in 1900, Sir William Broadbent was dismissive of what he called the “old” theory of cerebral anemia—looking instead to new work by physiologists like Sir Leonard Hill, who used a sphygmomanometer to ascertain that “the fall of the arterial pressure is concomitant with sleep rather than . . . the cause of sleep.”⁹⁹ Indeed, in Hammond’s later

⁹⁵ A Family Doctor, “Why Can’t I Sleep?,” *Cassell’s Family Magazine* (1887): 13–15, quotation on 14.

⁹⁶ A Physician, “How to Get to Sleep at Night” (n. 95), 379.

⁹⁷ A Family Doctor, “Why Can’t I Sleep?” (n. 96), 14.

⁹⁸ Blustein, “Brief Career of ‘Cerebral Hyperaemia’” (n. 31), 48; Scrivner, *Becoming Insomniac* (n. 4), 119.

⁹⁹ William H. Broadbent, “A Clinical Lecture on Sleeplessness,” *Lancet* 155 (1900): 215–17, quotation on 215; Leonard Hill, “On Rest, Sleep and Work and the Concomitant Changes in the Circulation of the Blood,” *Lancet* 151 (1898): 282–85, quotation on 283.

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writing he struggled to reconcile his blood-based physiological discovery and the nervous focus of his field, typically relying on vague terms like “cerebral action” and “congestion” to characterize the brain being at rest or at work—conveniently obscuring whether it was the blood or nervous force that was the driving action.¹⁰⁰

Exactly what physiological changes took place to promote sleep was a subject of contention for Victorian and Edwardian physicians. Hammond’s mechanical, circulatory-based paradigm had wide appeal and filtered into popular discourse. On the other hand, Granville’s more nuanced interpretation grappled with notions of nervous sympathy in an attempt to broaden out the potential causes of sleep loss while still centering the disruptive powers of an ill-timed meal. In either case, the digestive system still played a central role as a possible disruptor or facilitator of sleep. This consistent return to the everydayness of indigestion as a cause of sleep loss serves as an essential retort to contemporary and more recent interest in the more glamorous mental causes of sleeplessness like brain work and nerve exhaustion.¹⁰¹ The lack of a clear connection between physiological experimentation and clinical practice speaks to historian Christopher Lawrence’s argument that most late Victorian practitioners held the science of physiology at arm’s length, “prescrib[ing] for science a limited role in clinical practice.”¹⁰² It is helpful instead to think of gut and brain as

¹⁰⁰ Hammond, *Sleep, Sleeplessness and the Derangements of Sleep* (n. 91), 173.

¹⁰¹ Anson Rabinbach, *The Human Motor: Energy, Fatigue and the Origins of Modernity* (Berkeley: University of California Press, 1992); Barbara Will, “Nervous Systems,” in *American Bodies: Cultural Histories of the Physique*, ed. Tim Armstrong (New York: New York University Press, 1996), 86–100; Shuttleworth, “Fagged Out” (n. 6).

¹⁰² Lawrence, “Incommunicable Knowledge” (n. 10), 504.

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occupying a similar conception sphere, a “visceral consciousness,” whose exact definition varied with the individual experiences of the patient and paradigms of the practitioner. Fluid concepts of the autonomic nervous system and the connection of the bowel to the brain via the spinal cord meant different authors conceived of the gut-brain connection in different ways. However, the belief that disrupted digestion was one of the leading causes of sleeplessness is a common theme of sleep literature across the period.

Diet and Hygiene in the Treatment of Sleeplessness

While the digestive system was often perceived as the cause of sleep loss, it was also through the bowels that a cure could be found. Although physicians struggled to develop a clear theory of causation of sleeplessness, or how the digestive system might fit into the picture, their therapeutic recommendations for tackling sleeplessness remained surprisingly static across this period. Both medical and popular writings on sleeplessness called on a similar set of hygienic practices aimed at aiding the body in following its own natural rhythms of sleeping and waking—in which diet was a core component. The role of food as a cure for the condition is convoluted and slips promiscuously between older humoralist traditions and more modern, physiological ideas of the nerves and nervousness. With no direct method of treating the nerves or brain for sleeplessness, tried and tested techniques of regimen reigned supreme: a careful cultivation of moderation and regularity of habit. A. W. MacFarlane, Hadyn Brown, and Arthur Dennison Light were just a few of the popular late Victorian and Edwardian medical commenters who wrote on “sleep hygiene”: a series of hygienic practices around diet, clothing, and environment that aimed to ensure a good night’s sleep.

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As Ken Albala has observed, the dietetics of alimentary medicine changed surprisingly little throughout the early modern period, arguably “even down to the present.”¹⁰³ In the sixteenth and seventeenth centuries, meat, rich food, and alcohol were seen as key culprits in disturbing sleep by promoting the production of heat. Remedies that promoted a “cooling” of the overheated stomach, like lettuce, cucumbers, poppy, or lavender, were indicated.¹⁰⁴ Although neurological understandings of sleep had supervened by the eighteenth century, physicians still focused on diet as both a cause and cure for sleeplessness. George Cheyne, perhaps most famous for dubbing nervous disorder the “English Malady,” was recognized as an authority on eating as a way to prevent and treat disease.¹⁰⁵ Diet was a topic of particular interest to Cheyne, particularly as he struggled with his own considerable bulk—weighing at times as much as 32 stone (roughly 450 pounds).¹⁰⁶ In his *Essay of Health and Long Life* (1724) he advised temperate drinking and the consumption of vegetables and milk to ensure health and help procure sleep. However, he warned against eating just before bed, which was sure to promote “Wind, choler and superfluous chyle” in the guts and provoking “twitching and twinging [in] the nervous fibres” of the bowels, therefore disturbing rest—his own form of “visceral consciousness.”¹⁰⁷ By the early nineteenth century, Sir Henry Holland asserted that “a great source of inequality and disturbance in sleep is doubtless to be found in the state of

¹⁰³ Albala, “Food for Healing” (n. 17), 324.

¹⁰⁴ Handley, *Sleep in Early Modern England* (n. 4), 36–38, 75–80.

¹⁰⁵ Shapin, “Trusting George Cheyne” (n. 40); Guerrini, *Obesity and Depression in the Enlightenment* (n. 40).

¹⁰⁶ Guerrini, *Obesity and Depression in the Enlightenment* (n. 40).

¹⁰⁷ George Cheyne, *An Essay of Health and Long Life*, 4th ed. (London: George Strahan, 1725), 79.

the viscera.”¹⁰⁸ To tackle sleeplessness, Holland recommended wholesome diet and “supper at bedtime” in order to remove “irritation” of the viscera, and hence the undue excitement of the nervous system.¹⁰⁹ Despite mid-nineteenth-century physiological investigation of sleep, Victorian and Edwardian practitioners continued to rely on essentially the same therapeutic frameworks as Cheyne, Holland, and others who saw food as a potential instigator and specific for sleep loss.

Given the prevalence of digestive distress as a cause of sleeplessness in both “scientific” and elite classical medicine, it is hardly surprising that the first port of call for many physicians was to help the patient establish a healthy and nonirritating diet. Advances in physiology had served only to reinforce the role of the stomach as an effective and direct way of addressing disease through dietary improvement.¹¹⁰ As MacFarlane observed, “Sleeplessness of the most obstinate and intractable kind can be initiated and perpetuated by diverse dyspeptic conditions.”¹¹¹ The most likely cause of such everyday upsets was “unsuitable” food—defined generally as food that was either overly stimulating or difficult to digest. Meat, cheese, and raw vegetables were the most frequent culprits, alongside “pastry and unripe fruits” and “condiments and hot spices.”¹¹² To avoid sleeplessness, all foods had to be “well cooked and pleasantly flavoured” as well as carefully chewed, to promote an easy

¹⁰⁸ Holland, *Medical Notes and Reflections* (n. 51), 448.

¹⁰⁹ *Ibid.*, 448–50.

¹¹⁰ Miller, *Modern History of the Stomach* (n. 21), 18.

¹¹¹ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 187.

¹¹² *Ibid.*, 201.

digestion.¹¹³ MacFarlane provided these very specific instructions on the appropriate diet for sleepless patients:

Two substantial meals should be taken daily; the first about one o'clock, the second about seven pm, each consisting of clear soup, meat (such as beef, mutton, poultry, venison or game) and milk puddings or stewed fruit with cream; varied every alternative day by fish being substituted for soup. The fish should be, preferably, raw oysters, whiting, sole, haddock, turbot or brill. Green vegetables boiled in a plentiful supply of water should be eaten freely, also salads and tomatoes; potatoes more sparingly. Besides these, there should be at least two other meals; a substantial breakfast of Scotch porridge and cream, followed by chocolate or cocoa (made from nibs), with toasted bread (preferably brown) and butter, fat bacon and lightly boiled eggs.¹¹⁴

If MacFarlane had a particular rationale for advising raw oysters and cautioning against potatoes, he does not provide it. This is likely because his recommendations relied on a “common sense” approach to dietetics long established in the humoral tradition that privileged soft and “pre-digested” foods.¹¹⁵ Avoiding raw vegetables and fruits, spicy or rich foods, condiments, and even brightly colored foods had been practiced by physicians as a form of alimentary medicine since the medieval period.¹¹⁶ Red meats were associated with blood, passion, and violence—and later, under the Newtonian influence of George Cheyne, with dangerous acrid salts.¹¹⁷ The importance placed on white fish, soups, and bread and butter follows closely in the humoral tradition of clinical practice, demonstrating a coexistence of older humoral ideas with the emergence of physiological research in this

¹¹³ *Ibid.*, 207.

¹¹⁴ *Ibid.*, 111–12.

¹¹⁵ Albala, “Food for Healing” (n. 17), 323.

¹¹⁶ *Ibid.*, 324.

¹¹⁷ Guerrini, *Obesity and Depression in the Enlightenment* (n. 40), 120.

period. Cheyne had advised the consumption of white meat over red, on the basis that the hot “blood” of red meat upset digestion. Alongside these traditional recipes are some later additions—in particular cocoa and milk puddings, likely aimed at building up energy and body weight. For patients where indigestion had already set in, milk, eggs, and meat were to be limited. Instead, “more easily assimilated foods” were recommended by MacFarlane including “raw meat juice, clear soups, custards, peptonized foods, koumiss and Loefflund’s *Cremor hordaeutis*.”¹¹⁸

Reading MacFarlane’s menu, we are reminded of the class dynamics of sleeplessness. As the passage that opened this article indicated, sleeplessness was most typically associated with middle-class, generally male, “brain workers.”¹¹⁹ It was this group which likely composed the bulk of private patients for practitioners like MacFarlane and to whom he addressed this advice. As Anita Guerrini has observed in the eighteenth-century context, “The idea of renouncing food, or choosing some food over others, had a distinct class bias.”¹²⁰ The wide variety of fish, meats, vegetables, and dairy products recommended by MacFarlane would likely have been well beyond the means of the average unskilled worker or artisan in this period. The preparation of recipes like well-sieved soups, custards, and puddings imply a high level of “behind the scenes” domestic labor. The necessity for such meals to be

¹¹⁸ Loefflund was an American patent medicine producer specializing in malted foods and beverages. MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 112.

¹¹⁹ Elaine Showalter, *The Female Malady: Women, Madness and English Culture, 1830–1980* (London: Virago, 1987); Christopher E. Forth, “Neurasthenia and Manhood in fin de siècle France,” in Porter and Gijswijt-Hofstra, *Cultures of Neurasthenia* (n. 5), 329–62.

¹²⁰ Guerrini, *Obesity and Depression in the Enlightenment* (n. 40), 126.

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delivered at specified times of day according to the doctor's instructions would also have been difficult without the benefit of servants. Of course, the lower classes undoubtedly also suffered from sleep loss, but their concerns were far from the minds of most medical writers.

While we tend to think of the Victorian "brain worker" as male, these dietary recommendations also indicate the gendered dimensions of a complaint like sleep loss. Many of the foods recommended by MacFarlane are coded as "feminine": soft, white, and sweet, and undoubtedly would have also been served to female patients.¹²¹ Cheyne's "nervous" patients, regardless of gender, were treated with a "feminized" diet of milk and vegetables, eschewing more masculine red meat and alcohol.¹²² Indeed, in the eighteenth and early nineteenth centuries, women were seen as more prone to nervous disorders like sleep loss due to their sensitivity to emotional and physical stimuli.¹²³ Novelist Sarah Burney (1772–1844), suffering from sleeplessness, complained that "a little light pudding or a bit of innocent boiled fish . . . is all that I want or am allowed."¹²⁴ The commentator "Medicus" informed the late-Victorian readers of *The Girls Own Paper* that sleeplessness was common among girls too, although typically as a result of illness or invalidism rather than brain work.¹²⁵ The

¹²¹ Silvia Mergenthal, "Dining with the Brontës: Food and Gender Roles in Mid-Victorian England," in *The Pleasures and Horrors of Eating: The Cultural History of Eating in Anglophone Literature*, ed. Marion Gymnich and Norbert Lennartz (Bonn: Bonn University Press: 2010), 205–20.

¹²² Guerrini, *Obesity and Depression in the Enlightenment* (n. 40), 126.

¹²³ Clark Lawlor and Ashleigh Blackwood, "Sleep and Stress Management in Enlightenment Literature and Poetry," *Interface Focus* 10 (2020): 20190089.

¹²⁴ Kennaway and Andrews, "'Great Organ of Sympathy'" (n. 12), 65.

¹²⁵ Medicus, "Between the Dark and the Daylight," *The Girls Own Paper*, 17 (1896) 457–58.

columnist advised his well-to-do female readers who suffered from uneasy nights that “your mainstay is food”—recommending an easily digestible diet including milk pudding, toast, and ideally some “Bovril . . . kept hot over a night-light,” should it be required overnight when servants were not available.¹²⁶

A carefully crafted, nonirritating diet was essential in calming the digestion and avoiding sleeplessness, but food itself, taken correctly, was also an effective soporific.¹²⁷ An elite gentlemanly physician of the old school, Dyce Duckworth drew on humoral ideas when he advised his readers to consume “chicken and simply prepared salad of lettuce” alongside some dry champagne immediately before bed.¹²⁸ The salad of lettuce was a critical part of the recipe as the leaf was widely believed to naturally induce sleep. As Granville observed, “Lettuce has been famous since the time of Galen, who believed himself to have found relief from sleeplessness by taking it at night.”¹²⁹ Unsurprisingly, lettuce is often mentioned in the early modern period as a cure for wakefulness, alongside cucumbers, because of their ability to cool an overheating stomach.¹³⁰ Light advised, “Eat onions before going to bed and you will find yourself more inclined to sleep than ever before.”¹³¹ James Sawyer observed that popular remedies for sleeplessness like fennel stalks, onions, lettuce, as well as nutmeg,

¹²⁶ Ibid., 458.

¹²⁷ Pennell, ““A Matter of So Great Importance to My Health”” (n. 17).

¹²⁸ Duckworth, *Observations on the Causes and Treatment* (n. 51), 14.

¹²⁹ Granville, *Sleep and Sleeplessness* (n. 41), 88.

¹³⁰ Handley, *Sleep in Early Modern England* (n. 4), 78.

¹³¹ Light, *How to Cure Insomnia* (n. 71), 62.

cowslips, and cloves, which drew upon a similar “cooling” paradigm, didn’t necessarily have a medical basis, but there was little harm in patients experimenting with them.¹³²

Certain items of food and drink could themselves cause sleeplessness by irritating the digestion and/or nervous system. In particular, tea, coffee, tobacco, and (some forms of) alcohol were often forbidden by practitioners for their stimulating qualities. Haydn Brown opined: “Tea and coffee are specially bad on an empty stomach near bed-time. They are both well known to be amongst the best means of keeping one awake. . . . If a man declare he cannot sleep unless he has taken whiskey or tea to temporarily soothe, then there is more trouble for him ahead.”¹³³

The excessive drinking of tea and coffee, so popular among the British and American middle classes, was universally condemned, in some cases because of their stimulant quality, but more frequently because of their ability to upset digestion.¹³⁴ The acidity of teas and coffee, in particular their tannin content, was linked to dyspepsia and therefore sleeplessness.¹³⁵ William Broadbent bemoaned the common practice among Britain’s upper classes of afternoon tea, which he perceived as a direct cause of sleep loss via dyspeptic upset.¹³⁶ Given the impossibility that a tea drinking nation like Britain would forgo the substance altogether, MacFarlane created a rubric of teas by tannin content to guide dyspeptic

¹³² James Sawyer, *Insomnia: Its Causes and Treatment* (Birmingham: Cornish, 1912), 67.

¹³³ Brown, *Sleep and Sleeplessness* (n. 77), 78.

¹³⁴ For example, Henry M. Lyman speaks of caffeine content and stimulating the brain in *Insomnia and Other Disorders of Sleep* (Chicago: W.T. Keener, 1885), 54.

¹³⁵ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 179.

¹³⁶ Broadbent, “Clinical Lecture on Sleeplessness” (n. 100), 219.

patients, and advised those so afflicted to drink Ceylon and Chinese tea. Alternatively, tea-lovers might consumer a glass of water mixed with bicarbonate of soda at the same time, to counteract possible negative effects on the digestion.¹³⁷

Practitioners also grappled with the difficult question of alcohol consumption, which seemed at once to procure sleep but also to confound it. Depending on the type of sleeplessness and the constitution of the patient, alcohol could be either a stimulant or a sedative. For MacFarlane, alcohol was primarily a stimulant for the nerves and recommended whiskey, port, sherry, and champagne. Avoiding its ill effects was a question of moderation, and used correctly, alcohol could relieve “a temporary gastric congestion and a corresponding cerebral anemia.”¹³⁸ The combination of warm milk, eggs, and alcohol (typically rum or whiskey), known as milk punch or eggnog, was highly prized in the treatment of sleep loss. “Nutritious and easily digested,” eggnog provided sustenance to the nerves in cases where the digestion was severely disordered at the same time as providing pain relief.¹³⁹ As surviving collections of domestic material culture can attest, an eggnog or “flip” shaker was not an unusual piece of equipment in a nineteenth century British household, probably used in the care of invalids.¹⁴⁰ However, larger doses of alcohol had too great a stimulant effect or wrought damage on the nervous system which set up a vicious cycle of sleeplessness. Wine

¹³⁷ MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 182.

¹³⁸ *Ibid.*, 169.

¹³⁹ Lyman, *Insomnia and Other Disorders of Sleep* (n. 135), 66.

¹⁴⁰ See, for example, an egg-flip shaker ca. 1800 in the collections of the V&A Museum in London, M.655-1936, <http://collections.vam.ac.uk/item/O68105/egg-flip-shaker-unknown/>.

was almost universally acknowledged to be counterproductive to sleep—its fermented nature and inherent acidity were judged likely to induce dyspepsia.¹⁴¹

While the careful selection of food and drink was essential in tackling sleeplessness, it was just one aspect of a wider sleep hygiene that also included bathing, exercise, habit, preparation of the sleep chamber, and advice on clothing. However, here too the gut was a central concern. The stimulation of the skin and nerves through bathing, particularly the Turkish bath, was thought to have a direct effect on strengthening the “digestive powers” at the same time as soothing the brain.¹⁴² Furthermore, by inducing sweating, hot baths were believed to encourage the cleaning of the blood, particularly helpful where intestinal stasis was resulting in “auto-intoxication.”¹⁴³ Similarly, exercise might serve to strengthen the whole system and was prized for its ability to tone the abdominal muscles and therefore digestion. Keeping the abdomen warm with hot water bottles or flannels had the effect of heating the midsection—promoting digestion and breaking up flatulence. Warm clothing had the double effect of improving circulation (and therefore addressing brain congestion) and avoiding indigestion, often provoked by a cold bedroom.¹⁴⁴ While often couched in language relating to soothing the nerves and irritated brain, many of these other hygienic measures were seen as having a beneficial effect on the digestive system. Leonard Hill complained that

¹⁴¹ Brown, *Sleep and Sleeplessness* (n. 77), 77.

¹⁴² MacFarlane, *Insomnia and Its Therapeutics* (n. 67), 204.

¹⁴³ Brown, *Sleep and Sleeplessness* (n. 77), 93.

¹⁴⁴ *Ibid.*, 74.

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such practices, calculated to redirect cerebral circulation, were not supported by any experimental proof from the science of physiology.¹⁴⁵

In the letter to the *Westminster Gazette*, the author showed an admirable awareness of the main practices of sleep hygiene: sedatives, bathing, exercise, and, ultimately, a well-timed evening snack. While many of the authors explored here were writing for a purely medical audience, the majority of the works on sleep hygiene, including Granville's *Sleep and Sleeplessness*, were clearly written for a broader public. The anonymous author would have also had access to a wide variety of proprietary medicines and food stuffs that capitalized on this general wisdom. Cocoa, meat extracts, and nerve "foods" all presented themselves as easy means to nourish and soothe the brain through digestion. For example, Dr Tibbles' Vi-Cocoa, actively marketed itself in the early twentieth century as a cure for insomnia. Advertisements instructed consumers to "drink a cup of Dr Tibbles' Vi-Cocoa every night before retiring . . . [to] maintain the strength of the sleeper throughout the night."¹⁴⁶ The remedy, a mixture of cacao, malt, hops, and kola, worked by both strengthening the nerves as well as assisting digestion—the two drawn inextricably together in popular discourse.

Conclusion

When Ebenezer Scrooge was haunted by his business partner Jacob Marley after a dinner of bread and cheese, he naturally assumed his stomach was to blame for the nightmarish apparition. "You may be an undigested bit of beef, a blot of mustard, a crumb of cheese, a

¹⁴⁵ Hill, "On Rest, Sleep and Work" (n. 100), 284.

¹⁴⁶ Advertisement, "Vi-Cocoa," *Stamford Mercury*, October 14, 1910, 6, British Newspaper Archive.

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fragment of underdone potato. There's more of gravy than of grave about you."¹⁴⁷ Scrooge's rationale would have been very familiar to *A Christmas Carol*'s contemporary audience. Errors of diet such as stimulating condiments (the mustard), heavy meats (beef), or poorly cooked food (potato) were widely believed, in both lay and medical circles, to cause sleep troubles. As late as the early twentieth century, physician Haydn Brown asserted that "errors of digestion" were common causes of nightmares, which in older patients (like Scrooge) could in themselves be harbingers of insanity.¹⁴⁸ Regardless of Scrooge's mental state, his explanation for the ghostly visitation indicates the widespread nature of medical understandings of sleep causation and sleep disruption that emanated from the gut and diet. A famous insomniac himself, Dickens was undoubtedly a consumer of medical literature on sleeplessness. While his personal cure focused on cooling the body, night walking, and aligning the bed to magnetic north, Scrooge's appeal to a poorly calculated dinner as the cause of nocturnal apparitions indicates that, much like his protagonist, Dickens was highly conscious of the viscera and its relationship to sleeplessness.¹⁴⁹

In attempting to understand the nature, cause, and cure for sleeplessness, British and American medical practitioners were sailing in uncharted waters. Despite new neurological understandings of the body and the contributions of physiology, much about sleep remained mysterious. As Janet Oppenheimer argued in her study of neurasthenia, Victorian medical

¹⁴⁷ Charles Dickens, *A Christmas Carol, in Prose, Being a Ghost Story of Christmas* (London: Bradbury and Evans, 1858), 17.

¹⁴⁸ Brown, *Sleep and Sleeplessness* (n. 77), 14.

¹⁴⁹ Jim Horne, *Sleepfaring: A Journey through the Science of Sleep* (Oxford: Oxford University Press, 2006), 209.

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men were baffled by the ambiguities of disorders that seemed to lie somewhere between the psychological and physiological. “They managed to conceal, perhaps even to themselves, the cracks in the theoretical structure of their expertise.”¹⁵⁰ Exploring the gut-brain axis in sleep medicine of the nineteenth and early twentieth centuries reveals patterns of confusion and concealment. While many physicians attempted to make a physiological case for sleeplessness—as a nervous disease, as toxemia, as a blood imbalance—many others skipped quickly over the competing theories of sleep or instead offered their own personal interpretation. What remained the same, however, was a core therapeutic of sleep hygiene, which relied on dietetic common sense inherited from earlier centuries.

In the absence of a coherent or even widely agreed upon concept of sleep and its connection with digestion, Granville’s conception of “visceral consciousness” serves as a useful angle for bringing brain and gut into the same conceptual sphere. For Granville, this phrase served to indicate that the gut and brain were closely connected via the nervous system—with irritated abdominal organs having a profound effect on the brain through pain and sensibility. But it is a concept that could helpfully be extended to comprise the many different approaches of practitioners in this period. For example, in Hammond’s understanding of cerebral anemia, the viscera served as a necessary foil to the consciousness—the diversion of blood to the guts by eating or other stimulation resulting in the brain losing consciousness in the sleep state. Alternatively, the viscera could promote sleep by facilitating the feeding and strengthening of nerves through nutrition.

An attunement to “visceral consciousness” reveals the messy realities of the often contradictory ways that physicians and physiologists understood the gut, the “nervous” body,

¹⁵⁰ Oppenheimer, “*Shattered Nerves*” (n. 5), 7.

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and sleep. It has highlighted the wide gap between theoretical approaches to sleep and the practice of therapeutics—which remained entrenched in older humoral alimentary medicine. Crucially, it has revealed the mundane symptomatology that brought patients to seek medical advice (gut pains, bloating, flatulence, and vomiting) as well as the way these were tackled in the domestic setting. Foods like white fish, lettuce, onions, cocoa, and eggnog were relatively easy for middle- and upper-class patients to access, and reveal something of everyday dietetics for patients with trouble sleeping. Similarly, practices of bathing, clothing, and arrangement of the bedchamber can help to better understand quotidian bodily practices of the time.

Looking back at nineteenth- and early twentieth-century discussions of sleep and sleeplessness serves to highlight the centrality of diet and digestion as both its cause and cure. This article joins the new and exciting movement in scholarship that challenges the primacy of the brain by enlivening the viscera—demonstrating the utility of thinking from the gut in the Victorian and Edwardian period. The convoluted grappling of nineteenth- and early twentieth-century physicians with the link between gut and brain in sleep loss indicates that the entanglement of digestion and nerves remained into the early twentieth century. In the light of contemporary interest in the gut-brain axis, in which the primacy of the brain is being challenged by new scientific insights, such historical analysis takes on a new urgency. Perhaps it is more useful to think not of an emerging twenty-first-century science of the gut-brain connection but rather a resurgence of ideas in a much longer historical thread.

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