The British Journal for the History of Science (2025), 1–16
doi:10.1017/S0007087425101040

RESEARCH ARTICLE

Diagnosing the dead: post-mortem examinations and medical ship culture in the Royal Navy

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Abstract

This article examines the practice of post-mortem examination in the Royal Navy during the French Revolutionary and Napoleonic Wars (1793–1815). The professional medical logbooks kept by ship's surgeons as part of their mandated practice reveal that they turned to pathological anatomy to diagnose their patients – a technique typically associated with French anatomy during this period. I show that these post-mortem dissections blended medicine and surgery together by correlating clinical signs and symptoms of disease with pathological manifestations of disease in the bodies after death. This article also considers the medical culture that existed on these ships that enabled this research, specifically how captains, officers and crew responded to, and interpreted, such medical enquiry on board. By resituating the naval ship as a site of medical experimentation and enquiry, I explore how naval surgeons participated in medical research within the Royal Navy and used the ship space to engage in pathological anatomy before their British civilian counterparts flocked to French hospitals after the wars.

The practice of opening up the body after death to render visible the effects of disease and localize them within organ or tissue structures has been central to many debates about the development of modern clinical medicine around the year 1800. While historians of medicine have sought to dispel diffusionist narratives that centred the origins of modern clinical medicine in post-Revolutionary Paris, anatomical dissections have been presented in the historiography as a significant divide between French and British medicine.[1] French pathological anatomy has been distinguished from Britain's tradition of morbid anatomy both in its frequency and in its epistemic function as a diagnostic tool in clinical practice.[2] However, some scholars have questioned this distinction, suggesting that if we look outside Britain, we can see pathological anatomy conducted by British practitioners in the colonial

[1] Othmar Keel, 'The politics of health and the institutionalisation of clinical practices in Europe in the second half of the eighteenth century', in W.F. Bynum and R. Porter (eds.), *William Hunter and the Eighteenth-Century Medical World*, Cambridge: Cambridge University Press, 1985, pp. 207–58; Russell C. Maulitz, 'Channel crossing: the lure of French pathology for English medical students, 1816–36', *Bulletin of the History of Medicine* (1981) 55, pp. 475–96; Stephen Jacyna, 'Robert Carswell and William Thomson at the Hôtel-Dieu of Lyons: Scottish views of French medicine', in Roger French and Andrew Wear (eds.), *British Medicine in an Age of Reform*, London: Routledge, 1991, pp. 110–35.

[2] E.H. Ackerknecht, *Medicine at the Paris Hospital, 1794–1848*, Baltimore: Johns Hopkins University Press, 1967; Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (tr. A.M. Sheridan Smith), London: Tavistock, 1973; Russell C. Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century*, Cambridge: Cambridge University Press, 1987.

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context.[3] This article considers an alternative venue for 'British' anatomical dissections, namely the Royal Navy, to highlight the diagnostic use of anatomical dissections within ship's surgeons' research practices, both in colonial settings and closer to British shores. By examining the anatomical investigations conducted on naval ships, I argue that naval surgeons used the ship space as a site of medical research and professional development. The use of naval ships for medical research must be integrated into histories of science and medicine.

The collection of naval medical logbooks at The National Archives, Kew (ADM 101), offers a rare insight into the medical world on board Royal Navy ships, centred around patient cases. The logbooks tend to follow either a three-column or a five-column preprinted table format. One column is for identifying patient information: name, age, rank or occupation on board, and date added to the sick list; one to three central columns request a description of the patient's signs and symptoms, diagnosis and treatment; and a final column contains discharge information. As Catherine Beck and Sara Caputo have already illustrated, these records can be used to shed light on patient experiences of naval medical care.[4] However, these medical records can also provide unique insight into individual and institutional medical praxes through an analysis of the practitioners' behaviours.[5] Surgeons frequently used military service, whether in the army or the navy, as a career-building move; once part of the forces, they found themselves participating in a unique culture of medical research focused on observation and empiricism.[6] Using the descriptive records of their practice – the medical logbooks – we can trace exactly how they constructed and performed their professional identities through their participation in research.[7]

By treating these medical records as 'paper technologies', we can consider how the form and structure of these records affected the production of knowledge.[8] In their prescribed form, these records represent the tendencies towards standardization and institutionalization of medical practice, rather than forming the full patient case narratives commonly found in medical casebooks of the time. The information requested by the Admiralty prioritized abbreviated patient cases, ordered sequentially based on admission to the sick list, and arranged in columns to facilitate data organization and extraction. As surgeon Benjamin Outram of HMS *La Nymphe* remarked in his own logbook, 'the form prescribed for keeping the above journal seems rather intended for a general extract than a diary of

[3] Mark Harrison, 'Racial pathologies: morbid anatomy in British India, 1770–1850', in Biswamoy Pati and Mark Harrison (eds.), *The Social History of Health and Medicine in Colonial India*, London: Routledge, 2009, pp. 173–94.

[4] Sara Caputo, 'Treating, preventing, feigning, concealing: sickness, agency and the medical culture of the British naval seaman at the end of the long eighteenth century', *Social History of Medicine* (2021) 35(3), pp. 749–69; Catherine Beck, 'Patronage and insanity: tolerance, reputation and mental disorder in the British Navy, 1740–1820', *Historical Research* (2021) 94(263), pp. 73–95.

[5] On this methodological approach to medical records see Erwin H. Ackerknecht, 'A plea for a "behaviorist" approach in writing the history of medicine', *Journal of the History of Medicine and Allied Sciences* (1967) 22, pp. 211–14; Guenter B. Risse and John Harley Warner, 'Reconstructing clinical activities: patient records in medical history', *Journal for the Social History of Medicine* (1992) 5(2), pp. 183–205.

[6] Marcus Ackroyd, Laurence Brockliss, Michael Moss, Kate Retford and John Stevenson, *Advancing with the Army: Medicine, the Professions, and Social Mobility in the British Isles, 1790–1850*, Oxford: Oxford University Press, 2006; John M. Cardwell, 'Royal Navy surgeons, 1793–1815: a collective biography', in David Boyd Haycock and Sally Archer (eds.), *Health and Medicine at Sea, 1700–1900*, Woodbridge: Boydell Press, 2009, pp. 38–62; Mark Harrison, *Medicine in an Age of Commerce and Empire: Britain and Its Tropical Colonies, 1660–1830*, Oxford: Oxford University Press, 2010; Catherine Kelly, *War and the Militarization of British Army Medicine, 1793–1830*, London: Pickering & Chatto, 2011; Erica Charters, *Disease, War, and the Imperial State: The Welfare of the British Armed Forces during the Seven Years' War*, Chicago: University of Chicago Press, 2014.

[7] Manon C. Williams, 'Surgeons at sea: professional identities and medical practice in naval surgeons' journals, 1793–1815', unpublished PhD thesis, University of St Andrews, 2024.

[8] Volker Hess and J. Andrew Mendelsohn, 'Case and series: medical knowledge and paper technology, 1600–1900', *History of Science* (2010) 47, pp. 287–314.

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practice', and though he has 'always been accustomed to keep an account of [his] practice' he felt restricted by the logbooks' simplified format.[9] However, a closer look at the logbooks reveals that there was in fact immense variability in how they were actually filled in – the constraints imposed by the navy were countered by surgeons' own individual preferences in how to organize their medical notes and record patient cases. As Gianna Pomata and Richard Bellis have argued, there is a need to seriously consider the 'epistemic genre' of medical texts to understand how their contents reflect or depart from structural conventions of the genre.[10] While many surgeons followed the prescribed format, an equal number deviated, whether in minute or substantive ways, to capture other aspects of their practice on board ship. From marginal notes and addendums to a complete disregard for the preprinted format, naval surgeons adjusted these logbooks to suit their own requirements. These deviations in format and genre reveal their own personal and professional research interests.

As a case study of these naval surgeons' participation in medical research, this article focuses on a subset of these logbooks that included post-mortem examinations addended to their patient cases. While the addition of a post-mortem dissection was not novel to the format of a medical case narrative in the eighteenth century, as illustrated by Pomata, it was certainly not part of the requested information in the Admiralty's logbooks.[11] The inclusion of these post-mortem examinations reveals how surgeons manipulated these standardized records to suit their research interests and provides insight into the practice of post-mortem examination in the navy. As well as tracing their intellectual motivations as they relate to broader trends in anatomy and pathology, I also explore how surgeons performed anatomical dissections within the military apparatus. After all, dissecting a body on a ship came with numerous barriers, not least the dark, cramped environment beneath decks and the seamen who inhabited these same spaces where their brethren were being put to the scalpel.

The importance of 'putting science in its place' is now a familiar discussion among historians of science.[12] Among historians of science, Royal Navy ships have long been considered vital to the scientific endeavour – providing access to global spaces and stimulating scientific enquiry – from natural history in the eighteenth century to ethnography, hydrography and meteorology in the nineteenth.[13] Scholars have considered how ships operated as 'scientific instruments' and 'floating laboratories' that drove scientific experimentation and knowledge production.[14] Certainly, the ship's global mobility – and the contradictions that

[9] The National Archives (TNA), ADM 101/110/4B, f. 25, HMS *La Nymphe*, 1797.

[10] Gianna Pomata, 'The medical case narrative: distant reading of an epistemic genre', *Literarature and Medicine* (2014) 32, pp. 1–23; Richard Bellis, '"As to the plan of this work … we think Dr. Baillie has done wrong": changing the study of disease through epistemic genre in Georgian Britain', *Notes and Records of the Royal Society* (2021) 75, pp. 39–58.

[11] Pomata, op. cit. (10), pp. 7–9.

[12] David Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge*, Chicago: University of Chicago Press, 2003.

[13] Anne Mariss, *Johann Reinhold Forster and the Making of Natural History on Cook's Second Voyage, 1772–1775*, Lanham, MD: Lexington Books, 2019; Daniel Simpson, *The Royal Navy in Indigenous Australia, 1795–1855: Maritime Encounters and British Museum Collections*, Cham: Palgrave Macmillan, 2021; Simon Naylor, 'Log books and the law of storms: maritime meteorology and the British Admiralty in the nineteenth century', *Isis* (2015) 106(4), pp. 771–97; Megan Barford, 'D.176: sextants, numbers, and the hydrographic office of the Admiralty', *History of Science* (2017) 55(4) pp. 431–56; Barford, 'Fugitive hydrography: the nautical magazine and the hydrographic office of the Admiralty, *c.*1832–1850', *International Journal of Maritime History* (2015) 27(2), pp. 208–26.

[14] Richard Sorrenson, 'Ship as scientific instrument in the eighteenth century', *Osiris* (1996) 11(2), pp. 221–36; Antony Adler, 'The ships as laboratory: making space for field science at sea', *Journal of the History of Biology* (2014) 47, pp. 333–62; Antony Adler, *Neptune's Laboratory: Fantasy, Fear, and Science at Sea*, Cambridge, MA: Harvard University Press, 2019; Anne Mariss, 'Johann Reinhold Forster and the ship *Resolution* as a space of knowledge production', in

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come with its simultaneous connectivity and disconnectivity – shaped the experiences of that space.[15] But naval surgeons themselves were not merely facilitators of 'scientific' collecting as they are frequently categorized in these histories; they were also participants in medical and scientific research.

By resituating the naval ship as a site of research for medical science, we can reintegrate the ship as a key space in the history of medicine as well as science. Naval hospitals and hospital ships have received some attention for their significance in the development of institutionalized medical practice, but regular ships of the line have garnered less interest as sites of medical enquiry, experimentation and knowledge circulation.[16] Using anatomical dissection as a case study of the medical enquiry conducted by naval surgeons, this article considers how the ship space was used as a venue for medical research. This article first outlines the major historical and historiographical debates concerning anatomical dissection during this period. The second section turns to the naval surgeons' logbooks for insights into why naval surgeons conducted these post-mortem examinations and what they were seeking to learn by dissecting the bodies of their fellow crewmembers. The third section then examines the unique dynamics of conducting post-mortem examinations on a ship, focusing on the spatial and cultural qualities that facilitated, or hindered, the ship's use in this way.

Anatomical debates

The pathological anatomy developed in France, pioneered by Xavier Bichat (1771–1802), has long been considered unique in its systematic use in clinical practice to examine of the body's tissue to evaluate structural changes demarcating disease.[17] The legalization and proliferation of post-mortem examination in public hospitals in France facilitated this practice, whereas British anatomy was largely limited to executed criminals in Britain.[18] Surgeons, through their professional incorporation into the Company of Barber-Surgeons in England and the Company of Barbers and Surgeons in Scotland, had held the right to dissect the bodies of a small number of executed criminals for pedagogical purposes from the sixteenth century.[19] The Murder Act of 1752 increased the number of executed criminals available for dissections, but the demands of anatomy schools were not satisfied until the passing of the Anatomy Act in 1832, after which the bodies of the unclaimed poor were also permitted to be dissected.[20] Though there was a distinct practice of British morbid anatomy

Hartmut Berghoff, Frank Biess and Ulrike Strasser (eds.), *Explorations and Entanglements: Germans in Pacific Worlds from the Early Modern Period to World War I*, New York: Berghahn Books, 2019, pp. 127–52.

[15] Michel Foucault, 'Of other spaces' (tr. Jay Miskowiec), *Diacritics* (1986) 16(1), pp. 22–7, esp. 24, 27; see also Matthew Ylitalo and Sarah Easterby-Smith, 'Ships', in Ricardo Bravaj, Konrad Lawson and Bernhard Struck (eds.), *Doing Spatial History*, London: Routledge, 2021, pp. 121–38; Martin Dusinberre and Roland Wenzlhuemer, 'Editorial. Being in transit: ships and global incompatibilities', *Journal of Global History* (2016) 11, pp. 144–62.

[16] Guenter Risse, 'Hospital ships', *History of Medical and Allied Sciences* (1988) 43, pp. 426–46; Cori Convertito, 'Mending the sick and wounded: the development of naval hospitals in the West Indies, 1740–1800', *Canadian Journal of History* (2016) 51(3), pp. 500–33; Erin Spinney, 'Servants to the hospital and the state: nurses in Plymouth and Haslar Naval Hospitals, 1775–1815', *Journal for Maritime Research* (2018) 20(1), pp. 1–17.

[17] Ackerknecht, op. cit. (2); Foucault, op. cit. (2); Maulitz, op. cit. (2).

[18] Toby Gelfand, 'The "Paris manner" of dissection: student anatomical dissection in early eighteenth-century Paris', *Bulletin of the History of Medicine* (1972) 46, pp. 99–130.

[19] Rachel E. Bennett, *Capital Punishment and the Criminal Corpse in Scotland, 1740–1834*, Cham: Palgrave Macmillan, 2018, pp. 159–85; Elizabeth T. Hurren, *Dissecting the Criminal Corpse: Staging Post-execution Punishment in Early Modern England*, Cham: Palgrave Macmillan, 2016.

[20] Maulitz, op. cit. (2), p. 124. See also Elizabeth T. Hurren, *Dying for Victorian Medicine: English Anatomy and Its Trade in the Dead Poor, c.1834–1929*, Basingstoke: Palgrave Macmillan, 2014; Ruth Richardson, *Death, Dissection and the Destitute*, 2nd edn, Chicago: University of Chicago Press, 2000.

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in the latter half of the eighteenth century, this was centred primarily in the Scottish medical schools and London's anatomy schools, and conducted by elite surgeons and physicians, such as William (1718–83) and John Hunter (1728–93), and their nephew Matthew Baillie (1761–1823), and John (1763–1820) and Charles Bell (1774–1842).[21]

The question of *who* was doing the anatomizing is an important one. Maulitz argued that, in France, medicine and surgery merged together in the eighteenth century in ways that were not available in the British context due to a more strict adherence to the tripartite division between physicians, surgeons and apothecaries.[22] Instead, he argued, it was not until the rise of hybrid surgeon–apothecaries and the growing prominence of the medical periodical press that this form of anatomizing was incorporated into British practice from the 1820s onwards.[23] While historians of British medicine have argued that disciplinary boundaries were increasingly blurred by the end of the century, post-mortem examinations, when conducted, tended to remain in the purview of surgeons.[24] While practitioners in Britain were occasionally granted permission by next of kin to conduct post-mortem examinations of their patients, providing an opportunity to link clinical observation to pathological findings, such opportunities were both infrequent and inconsistent.[25] This explains why so many physicians and surgeons travelled to France in the aftermath of the Napoleonic Wars to gain first-hand experience of pathological anatomy in French hospitals.[26] Thus, on the British side of the Channel, post-mortem examinations were far more limited within regular medical practice than in France, where they were both more widespread and integrated systematically into diagnostic practice.

Aside from the accessibility of bodies, there were also some variances in how anatomical dissections functioned as a diagnostic tool to understand the effects of disease on the body. The Italian physician Giovanni Battista Moragini (1682–1771) is perhaps best known for his correlation of clinical signs and symptoms of disease with localized post-mortem findings, as exemplified in his five-volume work *On the Seats and Causes of Disease* (1761).[27] His work influenced both French and British anatomy, though the availability of bodies and the integration of post-mortem examination into standardized practice – as present in the French context – led to some deviations. French pathological anatomy, according to Russell Maulitz, was characterized by two key features: first, a medical theory based around the reactivity of solid organs and tissues beyond humoral theory and, second, an understanding of the utility of applying this theory diagnostically in standardized practice.[28] By contrast, British medicine was far more influenced by empiricism, reading the signs and symptoms of the patient and classifying their disease using nosological classifications popularized by William Cullen (1710–90).[29] Scholars have characterized this distinction as one either primarily preoccupied with diagnosis, as in French pathological anatomy, or one

[21] On the Hunters see the works in Bynum and Porter, op. cit. (1). On Charles Bell see Carin Berkowitz, *Charles Bell and the Anatomy of Reform*, Chicago: University of Chicago Press, 2015.

[22] Maulitz, op. cit. (2), pp. 4, 110.

[23] Maulitz, op. cit. (2), pp. 125–33, 174.

[24] Irvine Loudon, *Medical Care and the General Practitioner 1750–1850*, Oxford: Oxford University Press, 1986; Christopher Lawrence, 'Ornate physicians and learned artisans: Edinburgh medical men, 1726–1776', in Bynum and Porter, op. cit. (1), pp. 153–76; Susan Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in Eighteenth-Century London*, Cambridge: Cambridge University Press, 1996, pp. 134–7, 302–10.

[25] C. Lawrence, op. cit. (24), pp. 153–76, esp. 167; S. Lawrence, op. cit. (24), pp. 309–10. See also Stuart W. McDonald, 'William Hunter's aristocratic post mortems', *Clinical Anatomy* (2021) 34, pp. 1068–80.

[26] Maulitz, op. cit. (1), pp. 475–96; Jacyna, op. cit. (1), pp. 110–35.

[27] Giovanni Battista Moragini, *De sedibus et causis morborum per anatomen indagatis*, Venice, 1761. Originally published in Latin in 1761, translated into English in 1769.

[28] Maulitz, op. cit. (2), p. 3.

[29] William Cullen, *Synopsis nosologiae methodicae*, Edinburgh, 1772. For more on Cullen see C. Lawrence, op. cit. (24), pp. 153–76.

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primarily concerned with treatment, as in British medicine.[30] This division, however, was not absolute. As Richard Bellis has recently argued, Matthew Baillie was genre-breaking in his compilation of anatomical findings *without* bedside observation to understand disease, prioritizing structural changes in organs in a manner similar to the French practice and separate from the case study genre used by Moragini.[31]

It is also important to note that 'British' anatomy was not only conducted within Britain. Mark Harrison has shown that surgeons in the East India Company and armed forces in colonial India conducted post-mortem examinations as early as the 1770s.[32] The unique colonial context of India facilitated a widespread practice of post-mortem examination due to high death rates in the tropical climates and the lack of familial claims over European bodies while abroad, providing a unique loophole in the anatomical restrictions in Britain.[33] Military and colonial practitioners had more opportunities than most to conduct post-mortem examinations in colonial hospitals, since bodies were rarely expected to be returned home. Harrison identified a distinct culture in which bedside observation was tied to anatomical pathology, leading to the development of early theories of racial fixity, emphasizing the importance of considering colonial practices and their influences on British medicine. While Harrison broadens our lens to other global contexts of British medicine, his focus on the colonial world obscures that this practice may have occurred more frequently in military service and far closer to 'home' than previously thought.

Indeed, there was a longer tradition of post-mortem examination in the navy.[34] As early as the mid-eighteenth century, the naval physician James Lind (1716–94) was conducting dissections on scurvy patients at Haslar naval hospital, as recorded in his *Treatise of the Scurvy* (1753).[35] Another prominent physician of the fleet, Gilbert Blane (1749–1834), described in his *Observations on the Diseases of Seamen* (1799) that he had 'inspected' some bodies after death, leaving descriptions of ulcerated intestines and gall bladders with markedly little bile.[36] This evidence of investigatory dissection is supported by the osteoarcheological record, which confirms that some bodies buried at Haslar and Plymouth naval hospitals were subjected to post-mortem examination.[37] This practice, however, was not constrained to these naval hospitals in Britain, nor to these elite physicians.

The naval surgeons' logbooks reveal that some surgeons were conducting post-mortem dissections on board ships, while based off British shores, and in station hospitals abroad, thus expanding the venues (and the objects) of anatomical dissection. Naval surgeons have already been acknowledged as an earlier antecedent to the hybridized practice between

[30] Introduction to French and Wear, op. cit. (1), p. 3; John Harley Warner, 'The idea of science in English medicine: the "decline of science" and the rhetoric of reform, 1815–1845', in French and Wear, op. cit. (1), pp. 147–72.

[31] Matthew Baillie, *Morbid Anatomy of Some of the Most Important Parts of the Human Body*, London, 1793; for more on Baillie see Bellis, op. cit. (10), pp. 39–58; and Richard Bellis, 'Making anatomical knowledge about disease in late Georgian Britain, from dissection table to the printed book and beyond: Matthew Baillie's "Morbid Anatomy" and its accompanying engravings', unpublished PhD thesis, University of Leeds, 2019.

[32] Harrison, op. cit. (3), pp. 173–94.

[33] Harrison, op. cit. (3), pp. 175.

[34] I am grateful to one of my anonymous reviewers for signposting these sources for me, indicating a longer tradition in the navy in its hospitals.

[35] James Lind, *A Treatise of the Scurvy*, Edinburgh, 1753, pp. 310–17.

[36] See, for example, his discussion on yellow fever and fluxes: Gilbert Blane, *Observations on the Diseases Incident to Seamen*, 3rd edn, London, 1799, pp. 406, 451–3.

[37] Ceridwen Boston, 'The value of osteology in an historical context: a comparison of osteological and historical evidence for trauma in the late 18th- to early 19th-century British Royal Navy', unpublished PhD thesis, Universtiy of Oxford, 2014, pp. 53, 300.

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medicine and surgery.[38] As illustrated in my own research, naval surgeons merged disciplines together due to the unique exigencies of their practice on board, and some even developed identities as 'medical philosophers', concerned not only with treatment, but also with medical enquiry.[39] This kind of boundary breaking can be seen throughout the naval medical logbooks in ADM 101, as characterized by naval surgeon Robert Young, who described himself as 'a man who is at once physician, surgeon and apothecary' in his own logbook for HMS *Ardent* (1798).[40] The post-mortem examinations conducted by naval surgeons on ships are a clear example of how they blended medicine and surgery.[41] Naval surgeons linked clinical signs and symptoms to pathological findings in the creation of a hybridized anatomical practice. This was facilitated not only by an opportunistic availability of bodies, but also by the longitudinal exposure to their patients' lives while at sea.

Dissections at sea

The language these naval surgeons used to describe their post-mortem examinations and dissections reveals a curiosity to investigate the cause of death. Significantly, these cases reveal distinct efforts by the surgeons to relate signs, symptoms and behaviours observed at the bedside to the pathological findings identified during post-mortem examinations and dissections. For example, on HMS *Albion*, surgeon Andrew Elphinstone performed a dissection on a thirty-year-old landsman while cruising in the East Indies in 1807–8.[42] His notes provide an example of how these post-mortem examinations blended clinical findings and pathology:

> On inspecting his abdomen, we found the liver to be perfectly sound; but the large intestines, were ulcerated and contained a quantity of purulent matter, the other viscera of the abdomen appeared in a sound state, excepting the spleen which was exceeding small, he never complained of pain in any part of the belly, but was much harangued by a constant purging and strangury in the thorax; the whole of the right lobe of the lungs adhered to the pleura, the left lobe was much wasted, as was the heart. Singultus came on three days before death, he then complained of pain about the praecordia.[43]

These examinations were not merely conducted to learn more about the anatomical structures of the body, due to access to available bodies, but rather as a diagnostic tool to understand unexplained or sudden death. In fact, the majority of the cases described below intertwined bedside observations, patient histories and findings upon dissection to weave a narrative of diagnosis.

[38] This was initially recognized by Christopher Lawrence in *Medicine and the Making of Modern Britain, 1700–1900*, London: Routledge, 1994, p. 25. Elsewhere, Lawrence elaborates that this shift from responsive first aid to preventive practice in naval medicine facilitated this merging of medicine and surgery. Christopher Lawrence, 'Disciplining disease: scurvy, the navy and imperial expansion, 1750–1820', in David Phillip Miller and Peter Hans Reill (eds.), *Visions of Empire: Voyages, Botany, and Representations of Nature*, Cambridge: Cambridge University Press, 1996, pp. 80–106.

[39] Williams, op. cit. (7).

[40] TNA, ADM 101/85/7 f. 24, HMS *Ardent*, 1797–8.

[41] Maulitz characterized this blending of external clinical and internal pathological findings as a mediation between medicine and surgery. Maulitz, op. cit. (2), p. 172. See also Owsei Temkin, *The Double Face of Janus and Other Essays in the History of Medicine*, Baltimore: Johns Hopkins University Press, 1977, pp. 487–96.

[42] Landsman: a new recruit with less than one year's experience at sea.

[43] TNA, ADM 101 82/3, f. 3–4, HMS *Albion*, 1807–8.

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After the death of a forty-seven-year-old sailmaker, surgeon John Tweedy Todd of HMS *Lion* dissected the body of his patient when diagnosis of the patient's severe bowel pain remained unclear.[44] HMS *Lion* was stationed at the time, in 1812, off the Cape of Good Hope. After opening the chest cavity, he noted that 'a quantity of water' was found in the left side of the thorax, and, while palpating the organs and viscera with his hands, he described what he found: 'the left kidney enlarged and ulcerated' with considerable inflammation, while the right kidney was merely enlarged. Todd added a comment at the end of the dissection notes recalling that the patient had no external injury to that area which may have caused the disease. Instead, the patient claimed that the pain emerged after a cold that he had had four months prior, which left him with pain in the bowel region. Though 'the primary disease was in the left kidney and communicated itself to the left side of the dorsal vertebrae, the patient never complained of pain indicative of a diseased state of those parts'. Todd's notes were clearly attempting to reconcile the picture that presented itself on dissection with the signs and symptoms he had witnessed and the history he was provided by the patient. When diagnosis from patient history and an observation of signs and symptoms failed, a post-mortem examination became a final recourse to identify the cause of death. What started as a diagnosis of bowel pain upon clinical presentation was eventually altered to fit the post-mortem finding of kidney disease.

The journal of W.H. Banks, surgeon of HMS *Hussar*, provides another example of a post-mortem used diagnostically, though this time it was to confirm a suspected diagnosis. While serving in the East Indies in 1812–13, Banks dissected the body of a patient who died unexpectedly and 'was in general a healthy lad with a fine florid complexion and without any appearance of a deficiency of oxygen in his system'.[45] Banks provided vivid descriptions of the patient's chest cavity and internal organs: 'on examining the thorax the left side was found to contain more than a gallon of pus mixed with pus and coagulated blood; the lungs on that side were very small, purple and hard, so much so as to induce the supposition that they could have assisted very little in respiration'. Banks took into account the lungs and kidneys, as well as the varying types of pus, 'a pint of serum', blood and purulent matter he found in the pleura, pericardium and thorax.[46] He concluded that the patient suffered from hypothorax, which was effectively a build-up of fluids in the chest cavity, a diagnosis that could only be reached by opening up the chest and examining it first-hand. In each of these cases, the dissection was an attempt to make the typically unseen parts of a body visible to confirm a suspected diagnosis or provide answers in cases without a clear diagnosis. When traditional diagnostics based on following a patient's external signs and symptoms, paired with the application of medical theory, failed to provide a suitable diagnosis, the patients' bodies were examined internally to ascertain the truth.

Post-mortem examinations also reveal how the surgeon's proximity to and familiarity with his patients' daily lives and habits influenced his assessment of a patient's clinical findings and pathology. For example, while stationed in Manila in 1815, surgeon Simon Davidson of HMS *Horatio* was dealing with an 'epidemic' of dysentery as well as what he suspected to be a liver and bowel disease among the crew.[47] Davidson decided to put one of the men who succumbed to death to the knife for further enquiry. This may be a feature of geographical context; Mark Harrison has noted that surgeons employed in India and the East Indies paid special attention to biliary and hepatic findings in their post-mortem dissections.[48] Davidson found, 'on dissection, a large abscess was formed in the left lobe of

[44] TNA, ADM 101 106/1, f. 36–37, HMS *Lion*, 1812.
[45] TNA, ADM 101 104/6, f. 28, HMS *Hussar*, 1812–13.
[46] TNA, ADM 101 104/6, f. 28, HMS *Hussar*, 1812–13.
[47] TNA, ADM 101 104/4, f. 12, HMS *Horatio*, 1815.
[48] Harrison, op. cit. (3), pp. 179–83.

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the liver'.[49] He noted with some surprise that the 'case did not betray any separate disease at the commencement', which implied that he had not been concerned with the liver prior to the examination. Eventually both the dysentery and the 'affections of the liver and bowels' took over 'nearly all of the Ships Company', including the officers. Interestingly, Davidson began to correlate the regular 'smuggling of liquor on board' and subsequent intoxication to the rise of these diseases: 'the consequence has been a certain return of the disease'. Indeed, Davidson more clearly correlated alcohol abuse with structural changes in the body's organs and tissues when he noted that his dissection yielded significant findings in the liver. As I have described elsewhere, many more cases in the logbooks suggest that naval surgeons sought to make meaningful discoveries to better understand the internal effects of chronic drinking on the body.[50] Naval surgeons were the ideal practitioners to investigate this disease as it was a persistent issue in naval ship culture, enabling surgeons to draw connections between their patients' lives and symptoms.

In some rare cases, post-mortems were conducted as an assurance against malpractice claims. William Ure's medical journal for HMS *Theban*, stationed in the East Indies in 1815, described the case of a captain's clerk who received a compound fracture of the right femur from a fall in October. Six days later, the clerk died. In the medical notes, the surgeon made sure to point out that the clerk had been 'bathing astern of the ship (contrary to the Cap^{ts} [*sic*] orders)'.[51] The tragedy of this accident and death was undercut by the clerk's direct insubordination. Nevertheless, the sudden death incited some caution. Ure conducted a post-mortem examination on the clerk to identify the cause of death, but he could find 'no appearance or indication to warrant amputation', suggesting a lack of evidence of infection or greater systemic malfunctioning caused by the fracture. This was swiftly followed by a remark that the clerk was 'very much addicted to drinking spirits' – a rationale that seemed to offer all the explanation Ure needed to close the case and absolve himself from further inquest. Either Ure was suggesting that a lack of control over drinking led to faulty decision making or he was suggesting that chronic alcohol consumption exacerbated his patient's ill health and delayed his healing in significant ways that were beyond the surgeon's control.

The medical logbooks reveal that naval surgeons also collaborated with their land-based colleagues in regional military stations in the West Indies, suggesting that this was sanctioned or accepted practice among medical practitioners in colonial spaces. In the West Indies, surgeon Thomas Simpson of HMS *Arethusa* (1805–6) was forced to discharge an especially perplexing case of a marine corporal to the local hospital of Barbados when it was 'no longer practical to keep him on board with any probable chance of his recovery' as there was 'not room left anywhere for even his hammock to hang without being most violently jolted by every person coming against it'.[52] Simpson visited the hospital a few days later and conferred with a Mr Gregory, the resident hospital surgeon. An additional note was added to the case by the surgeon:

> N.B. Upon conversing with Mr. Gregory on this case, he seemed to think that the symptoms bore some resemblance to the disease called angina pectoris, and conjectured that it may originally have arisen from some malconformation or disorganisation of the heart or large blood vessels. As his look today indicate a near dissolution, for he has not benefitted since he left me, I recommend after death, if it happens, to inspect the body.[53]

[49] TNA, ADM 101 104/4, f. 12, HMS *Horatio*, 1815.
[50] See Chapter 3 of Williams, op. cit. (7), pp. 119–58.
[51] TNA, ADM 101/123/1B, f. 24, HMS *Theban*, 1814–16.
[52] TNA, ADM 101 86/1, f. 17–18, HMS *Arethusa*, 1805–6.
[53] TNA, ADM 101 86/1, f. 18, HMS *Arethusa*, 1805–6.

https://doi.org/10.1017/S0007087425101040 Published online by Cambridge University Press

Simpson did not believe the marine would last long and, given both surgeons' perplexity over the case, a post-mortem examination seemed reasonable; opening up the body became the only way to confirm the suspected, yet unconfirmed, diagnosis. In another instance, the surgeon of HMS *Adventure* (West Indies, 1799–1800) explained that a landsman was dissected after he 'dropped dead while recovering from scurvy in the Mole Hospital, St Domingo'.[54] This case is incidentally the earliest mention of a post-mortem examination in the logbooks and reflects a trend in how unexpected deaths with unconfirmed causes led to further pathological investigation. Upon dissection, a landsman was found to have 'his heart and viscera in a state of putrefaction'. These two cases of post-mortem examination in the West Indies also reveal that these investigations were a sanctioned practice at this station, involving professional collaboration between the ship and hospital surgeons. Though the patients had been transferred to the hospital at the time the post-mortem examination would have occurred, the surgeons were in ongoing contact with the station hospital, suggesting a collegial participation in these investigations in colonial spaces.

Post-mortem examinations were not confined to the colonies. In the English Service in 1813, surgeon William Warner of HMS *Ville de Paris* conducted a post-mortem examination on a patient who had suffered from symptoms of catarrh, 'a very hard cough', and pains in the heart.[55] Warner was left uncertain of the diagnosis, thus warranting a dissection upon the patient's death. The surgeon described that, 'on opening the cavity of the thorax', he found 'an abscess in the left lobe' with a 'fetid and greasy' discharge. 'The lungs had adhesions to the pleura in several places' with 'marks of disease of long standing'. Warner concluded his exam, commenting on how remarkable it was that there was nothing in the clinical presentation 'to indicate so extensive an abscess as appeared on dissection'. In this case, post-mortem findings indicated a far graver disease than bedside observation suggested.

Warner was not the only one to remark on the lack of congruence between clinical observation and post-mortem findings. Surgeon William Shoveller of HMS *Leviathan* (1803–5) conducted nine post-mortems in his logbook. We will return to Shoveller's prolific anatomizing below, but it is worth noting here that in five of these cases he noticed that his patients' signs or symptoms did not reflect the gravity of disease discovered only after opening the body.[56] In one particular case, Shoveller even expressed regret at not having pursued a line of treatment, the potential benefits of which were revealed upon dissection.[57] As other scholars have argued, French pathological anatomy stressed the primacy of internal alterations to the body's tissues, verifiable by the practitioner, as more accurate or more 'scientific' than bedside observation, which was viewed as deceptive.[58] Similar to their French counterparts', Warner's and Shoveller's post-mortem notes reveal a belief that clinical observation had the capacity to mislead a diagnosis. Anatomical findings were seen to provide a more accurate explanation of disease and, at least in Shoveller's case, one regularly integrated into practice.

The above cases reveal that investigating the cause of disease was an accepted practice in the Royal Navy, whether this enquiry was undertaken collaboratively in station hospitals in the colonies or by independent surgeons closer to British shores. The diagnostic and practical use of these post-mortem examinations fits within the tradition found in Britain, even if the accessibility of bodies in the navy provided opportunities for a greater number of practitioners to get their hands dirty. However, the attention to structural changes

[54] TNA, ADM 101 80/5, f. 18, HMS *Adventure*, 1799–1800.
[55] TNA, ADM 101 125/3, f. 17, HMS *Ville de Paris*, 1813–14.
[56] TNA ADM 101 106/1A, f. 18, 20, 28–9, 31–3, 43–4; HMS *Leviathan*, 1803–4.
[57] TNA ADM 101 106/1B, f. 9–10, 16, HMS *Leviathan*, 1804–5.
[58] Warner, op. cit. (30), pp. 136–64.

https://doi.org/10.1017/S0007087425101040 Published online by Cambridge University Press

in organs and tissues and the primacy of its diagnostic role is reflective of the blending of medicine and surgery frequently described in contemporary French pathological anatomy.[59] Naval surgeons considered the changes they found to organs, viscera and fluids, paying close attention to which organs and tissues appeared diseased or irregular. Naval surgeons tended to combine clinical findings from bedside observation with observation of structural changes to organs and tissues in the body after death, a hybridized anatomical tradition that Mark Harrison has noted during this same period in colonial hospitals.[60] However, naval surgeons were making a correlation between their patients' lifestyles and post-mortem findings – a position they were uniquely placed to do due to their cohabitation with their patients in the ship space.

Floating anatomy theatres

Two questions remain, however: how did crewmembers feel about the bodies of their peers being subjected to this kind of medical enquiry? And what kind of medical culture existed on board to facilitate this research? The question of consent is a difficult one, and here I refer to consent in reference to allowing post-mortem examinations to take place on board, rather than individual prior consent to having one's body dissected. Regrettably, the logbooks tell us little about how crewmembers felt about post-mortem dissections occurring in the ship space. Incidental remarks, however, allow us to trace the faintest lines of the culture of consent that existed on these ships and the consequent limitations to medical research.

Crewmembers certainly demonstrated an understandable superstition around death, revealing how death was perceived and acknowledged by different members in this ship community. Surgeon Thomas Tappen of HMS *Arab* described the death of three men 'killed by lightning at sea' off the coast of Florida in October 1799.[61] Tappen described the 'most sulphureous stench accompanied with three sharp cracks' as the lightning struck the mast in half, resulting in numerous injuries among the crew and three deaths. Tappen noted that 'the marks of violence were most conspicuous in John Leggett, whose side had the appearance of being burnt, the skin all peeled off, tho [*sic*] the shirt remained entire', but 'the two others, had no other appearance than of contusion under the ear and about the forehead'.[62] Similar cases of lightning strikes in the logbooks demonstrate that surgeons were baffled by the lack of external physical evidence after such a shocking attack.[63] Tappen was not entirely certain that the patient was dead: noticing the smoke, he attempted 'those means used for the recovering life in cases of suffocation, but all to no use'. Tappen confirmed that the patients were 'bonefide dead' through distinctively medical means – by confirming a lack of pulse.

The sailors, however, thought otherwise, and were able to negotiate that the bodies of their comrades be held on board for confirmation of death. At the behest of the crewmembers, Tappen explained, 'we kept them till evening, to satisfy the credulity and superstition of sailors, when their bodies were committed to the deep'.[64] The surgeon, and presumably the captain and other officers, entertained the crews' superstitions by allowing the bodies to be kept for several hours to assuage the sailors' uncertainty. These actions might

[59] Maulitz, op. cit. (2), pp. 3, 172.

[60] Harrison, op. cit. (3), pp. 173–94.

[61] TNA, ADM 101 85/4, f. 17, HMS *Arab*, 1798. For a recent exploration of how lightning was treated and considered medically on board ship see Sara Caputo, '"One of the most alarming casualties to which the sailor is exposed": British naval medicine, embodied knowledge, and the experience of lightning at sea, 1750–1840', *Transactions of the Royal Historical Society*, 2025, pp. 1–24.

[62] TNA, ADM 101 85/4, f. 17, HMS *Arab*, 1798.

[63] TNA, ADM 101 98/3, f. 22, HMS *Edgar*, 1798; and TNA ADM 101 112/1, f. 12, HMS *Palma*, 1814.

[64] TNA, ADM 101 85/4, f. 17, HMS *Arab*, 1798.

https://doi.org/10.1017/S0007087425101040 Published online by Cambridge University Press

seem highly unusual in the context of existing histories of the Royal Navy, which have stressed that the latter exerted a disciplinarian top-down authoritarian regime from the 1780s onwards.[65] However, the control exerted was in fact more limited than has generally been acknowledged. In a similar vein, Sara Caputo has described how seamen were able to exert agency over their medical care by advocating for their access to care, feigning or concealing illness, or treating their ailments themselves.[66] Superstition was yet another expression of agency, and one that was acknowledged, however reluctantly, by the surgeons, officers and crew. This careful balancing of power suggests that the officers' control over the crew could be relatively tenuous. It also reveals the limits of the surgeon's medical authority when it came to the bodies of fallen crewmembers.

Medical practitioners' perception of seamen as superstitious, mentioned above, was not confined to the *Arab*. Similar characterizations are present in medical publications, and, if we turn to those, we can see another glimpse of how surgeons navigated the use of the ship as a space of medical investigation. In the June 1809 issue of the London-based *Medical and Physical Journal*, naval surgeon James Scott described the dissection of a seaman on board his ship HMS *Euryalus*, docked off Sheerness in Britain.[67] In response to further inquiries on the case, Scott responded the following month to explain his process with regard to this dissection. His account exposed the challenging dynamics that existed when conducting medical research on a ship:

> In the Navy we have frequent cause to lament the superstitious aversion which sailors have to dead bodies being opened; and I am sorry to add, that in most of His Majesty's ships, this abhorrence of what ought to be considered a sacred duty of the surgeons, pervades all ranks.[68]

Though dissections were commonly held to be part of the 'sacred duty of surgeons', expressed historically through the rights of incorporated surgeons, service in the Navy could hamper this scientific enquiry due to the superstition and abhorrence among *all ranks* of crew members. That this abhorrence defied rank and class suggests a broader cultural revulsion against opening the bodies of the dead, echoing the broader revulsion around dissection in Britain and the difficulty that practitioners faced in acquiring consent from kin to perform post-mortem examinations for diagnostic purposes.[69] The ship, as a space of labour and living, was not intrinsically medicalized in the ways in which hospitals and anatomy theatres were during this period. Naval surgeons, in performing post-mortem examinations on board, were utilizing a space that was not traditionally framed as medical.

Scott explained in greater depth what it took to actually facilitate this kind of investigation on board. At the time of the seaman's death, the captain was absent from the ship, so Scott was unable to ask for the captain's consent to conduct the dissection, resulting in a fourteen-hour delay.[70] The importance of amenable captains to sanction this practice emphasizes the significant role that captains played in shaping the medical culture

[65] N.A.M. Rodger, *The Wooden World: An Anatomy of the Georgian Navy*, London: Fontana Press, 1988, pp. 72–4; Lawrence, op. cit. (38), pp. 92–8.

[66] Caputo, op. cit. (4).

[67] The dissection was published in James Scott, 'Mr. Scott's case of hydrothorax', *Medical and Physical Journal* (June 1809) 21(24), pp. 443–6. James Scott was on HMS *Euryalus* in 1809 when he sent in this article for publication; however, his service logbooks do survive for HMS *Ajax* and HMS *Audacious* for the 1800–1 period; see TNA, ADM 101/81/5C; and TNA, ADM 101/81/5D.

[68] James Scott, 'Mr. Scott's case of death after the pumping of rum', *Medical and Physical Journal* (July 1809) 22(125), pp. 29–33, 29.

[69] Bennett, op. cit. (19), pp. 159–85; S. Lawrence, op. cit. (24), pp. 309–10.

[70] Scott, op. cit. (68), p. 29.

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on board, but this power was not restricted to the captain alone.[71] 'It has, however, been my good fortune to serve with officers of liberal understanding', Scott wrote, emphasizing the importance of support from the officer class and, importantly, the fact that, similar to the surgeons, most had experienced a 'liberal' education.[72] Most striking, however, was how Scott integrated the crew into the medical culture:

> In the few mortal cases that have occurred in my practice, I have uniformly obtained the consent and even approbation of the crew, by fairly stating the object of my research, and allowing such of them as chose it, to witness the dissection.[73]

Scott obtained not only the uniform consent of the crew, but also their support, provided there was an appropriate reason. This is not dissimilar to requesting the kin's permission to conduct a post-mortem examination in Britain; however, in the context of the ship, this power was transferred to the ship's crew. The crew, acting as a sort of proto-ethics committee, held power to negotiate and define what was considered acceptable research on the fallen bodies of their comrades.

The even more fascinating revelation that Scott encouraged the crewmembers to observe his dissections indicates another purpose to these examinations outside diagnosis. The remainder of Scott's submission discussed the post-mortem examination of a patient who died from chronic drinking. He explained that since the 'man's death was so sudden, and altogether unexpected by the ship's crew', Scott believed that a post-mortem examination could serve a pedagogical purpose.[74] 'I judged it my duty', Scott wrote, 'to explain that the cause of his dissolution' and 'opening the body in their presence would afford me an opportunity to point out to the sailors, the dreadful effects of intoxication'.[75] Scott discovered no significant findings in the brain or thoracic cavity, but he noted that the stomach was 'prodigiously enlarged' and, upon opening the stomach, evidence of 'the most violent inflammatory action' accompanied what he presumed were the fumes of the ingested liquor. As mentioned earlier, the effects of chronic drinking on the body had become a significant research interest among naval surgeons.[76] But what Scott's dissection here reveals is that these post-mortems were advancing not only medical understandings of the body among practitioners, but also public understandings of the disease, particularly among patients whose lives made them high-risk. Middle-class apprentices and medical students in Edinburgh and London were not the only groups of individuals who were participating in the observation of anatomical dissections; we can also include ship's crews – the very men at risk of alcohol poisoning, who hailed from very lowly backgrounds indeed.

A majority of the post-mortem examinations in these logbooks tends towards a random scattering of one-off cases among different practitioners on different ships. However, as mentioned above, one surgeon diverged from this picture of occasional dissection. Surgeon William Shoveller of HMS *Leviathan* appears to have taken a particular interest in conducting dissections and was evidently given liberal leave to do so by his captain and crew. He described in his medical logbook no fewer than nine post-mortems during the years from 1803 to 1805 while based in the Mediterranean.[77] Though his logbook provides no insight

[71] On the significant role that captains played in shaping a ship's medical culture see Williams, op. cit. (7), pp. 87–108.

[72] On the liberal education of surgeons see Cardwell, op. cit. (6), pp. 38–62.

[73] Scott, op. cit. (68), p. 29.

[74] Scott, op. cit. (68), p. 32.

[75] Scott, op. cit. (68), p. 32.

[76] See Williams, op. cit. (7), pp. 119–58.

[77] TNA ADM 101 106/1A, f. 17, 18, 20, 28–9, 31–3, 43–4; and ADM 101 106/1B, f. 1–2, 9–10, 16, HMS *Leviathan*, 1803–5.

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into why he was permitted to conduct so many post-mortem examinations, the impetus for opening up his patients' bodies remained much the same as his colleagues': sudden or inexplicable deaths with no definite diagnosis. The demographics of the patients Shoveller dissected highlight a broader trend in post-mortem cases that can be found in these logbooks. Aside from the obvious criteria of death, Shoveller was not especially discriminatory in whom he decided to open up. Among the nine cases, there was one boy (aged sixteen), four seamen (aged twenty, twenty-two, twenty-three and twenty-six), an attendant of the sick berth (twenty-eight), a carpenter's crewmate (thirty-two), one marine (thirty-two), and a lieutenant marine (twenty-four) – a range relatively representative of the ship's population. This broad range was also mirrored in the other logbooks, described above, which consisted of landsmen, seamen, a sailmaker, a marine corporal and a captain's clerk. Unlike the patients commonly used for dissection in Britain and France, namely criminals and the poor, a broader patient demographic was used in the navy.

The highest-ranking individual I have found post-mortem notes for in the logbooks reaffirms that this was not merely the opportunistic dissection of lower-ranking crewmembers, but a genuine investigative practice used to acquire diagnoses for unsolved or complex cases. After his death on 17 May 1807, the baronet and admiral Sir Thomas Louis (aged fifty-two) was put under the knife by the surgeon of HMS *Canopus*, A. Martin, for intestinal blockage after chronic constipation.[78] The ship had just returned to Alexandria Harbour from an expedition to the Dardanelles earlier that year, but Sir Thomas's ailment may have begun long before, during a previous expedition in the West Indies in 1805–6.[79] It was precisely because of this persistent and unresolved complaint, which still remains unidentified in his biographies, that surgeon Martin dissected his body in 1807. Upon dissection, Martin discovered significant inflammation and gangrenous tissue in the small intestines, the contents of which resembled 'grounds of coffee'.[80] More intriguing, however, was the rationale given to conduct the post-mortem on such a high-ranking member of the fleet: 'a dissection was thought necessary as it was determined that the body would be sent to Malta' for burial.[81] This suggests that, since the body was not going to be repatriated to family back in Britain, there was greater licence for this admiral's body to be opened up without the approval of kin.[82] The post-mortem dissection of Sir Thomas Louis reaffirms that this practice was not just opportunistic experimentation, but rather a genuine diagnostic effort, facilitated by the research culture of the navy.

These post-mortem examinations were being used in a utilitarian sense as diagnostic tools, providing material evidence of pathological changes to the body's tissues and organs to confirm disease. These post-mortems reflect similar patterns to those that Maulitz has noted in French pathological anatomy and Harrison has described for colonial India.[83] Long before British medical students flocked to France in the aftermath of Waterloo, some British naval surgeons were finding opportunities elsewhere to incorporate post-mortem examinations into their practice. The availability of transient bodies, without intention of repatriation, facilitated this investigation in a space otherwise not designed for medical enquiry. And yet, with the consent of the captain and crew, surgeons turned their ships into

[78] TNA, ADM 101/93/1, f. 71–72, HMS *Canopus*, 1806–7.

[79] C.H.H. Owen, 'Louis, Sir Thomas, first baronet (bap. 1758, d. 1807), naval officer', *Oxford Dictionary of National Biography*, at https://doi.org/10.1093/ref:odnb/17034 (accessed 1 September 2024).

[80] TNA, ADM 101/93/1, f. 72, HMS *Canopus*, 1806–7.

[81] And, unique to the cases in the logbooks, Martin also describes how the body was then cleaned with liquor, nitre and camphor and resewn with a glover's stich for burial; TNA, ADM 101/93/1, f. 72, HMS *Canopus*, 1806–7.

[82] Indeed, post-mortem examinations of aristocratic members of society were not unheard of in Britain either; McDonald, op. cit. (25), pp. 1068–80.

[83] Maulitz, op. cit. (2); Harrison, op. cit. (3).

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floating anatomy theatres, blending their medical practice with their surgical discipline to add new meaning to this space.

Conclusion

Naval surgeons' medical logbooks reveal that some conducted post-mortem examinations to learn more about the human body and about the pathology of disease, and to diagnose patients with unclear causes of death. Diagnosing the dead was not merely an act of philosophical curiosity, but one intended to gather diagnostic information to improve their practice. These examinations connected signs and symptoms to the physical manifestations visible on, and within, a patient's body. By blending bedside observation, clinical findings and structural changes to the organs and tissues of bodies, these naval surgeons were participating in the same tradition that Mark Harrison described for colonial India in the late eighteenth century and the early nineteenth. As Harrison has also observed, the venues offered within the military setting were distinct from civilian medical developments, and in some cases pre-dated major developments in Europe.[84] As we saw in the cases from the West Indies, naval surgeons collaborated with colleagues at station hospitals in broader networks of scholarly enquiry. However, pathological anatomy did not only occur in colonial spheres away from Britain. In the cases above, A. Martin, William Shoveller, William Warner and James Scott all conducted post-mortem examinations in the Mediterranean and Channel Services. Though post-mortem examinations did occur overwhelmingly abroad, it would be more accurate to define this practice as a feature of military medicine rather than a practice distinctive of colonial spaces.

While the role of the military and the use of soldiers in medical experimentation has long cast its shadow over the history of medicine, these floating anatomy theatres of the Royal Navy reveal that power dynamics were hardly linear, and a culture of medical collaboration was negotiated between the ranks and the professions. These naval surgeons' diagnoses were also facilitated by the practitioners' longitudinal exposure to their patient's lives. Cohabitation between medical professionals and their patients provided new opportunities to connect signs, symptoms and behaviours with physical manifestations upon post-mortem examination, especially in cases concerning chronic drinking. However, this medical culture was not solely determined by the medical practitioners who operated in these spaces; consent from the crew and support from officers and captains was also essential to turn a ship at sea into a floating anatomy theatre. These post-mortem dissections show how naval surgeons used the ship and its inhabitants to foster their own research interests in negotiation with the non-medical members on board the ship.

As this paper has shown, some naval surgeons used post-mortem dissections to collect diagnostic information which could be used alongside clinical findings to better understand diseases and their progession. Naval surgeons were frequently exposed to new diseases abroad, such as yellow fever, but they also reconsidered pervasive medical concerns on board, such as drunkenness. As medical officers in the navy, their remit was to reduce loss of life on their ships. The surgeons' logbooks reveal a breadth of research and practice on these ships that fit within the scope of improving the universalized health provision of the navy. By resituating the ship as a site of medical research, we can better understand how medical practitioners made use of the ship's liminal status to operate at the front lines of medical science. As a classic example of Foucault's 'heterotopia', the ship was a site of multilayered, sometimes contradictory, meanings.[85] The naval surgeons' medical logbooks reveal how they transformed these 'floating societies' or 'wooden worlds' into anatomy theatres,

[84] Harrison, op. cit. (3), pp. 188–9.
[85] Foucault, op. cit. (15), pp. 24, 27.

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adding a new dimension of meaning to the ship space and integrating medical research more thoroughly into the naval service.

Acknowledgements. This research was undertaken with the generous support of a Wolfson Postgraduate Scholarship in the Humanities at the University of St Andrews. Special thanks to Sarah Easterby-Smith for providing valuable feedback on drafts of this article, and to Aileen Fyfe, who commented on early iterations of this analysis. I am also grateful to the two anonymous reviewers for their time and careful consideration of this article. And, finally, thanks to Joseph for always agreeing to proofread for me, even at the eleventh hour.

Cite this article: Williams Manon C., 'Diagnosing the dead: post-mortem examinations and medical ship culture in the Royal Navy', *The British Journal for the History of Science* (2025), 1–16. https://doi.org/10.1017/S0007087425101040

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