

“Trust in Providence”

Building Confidence into the Cunard Line of Steamers

CROSBIE SMITH and ANNE SCOTT

Dependence on the providence, and trust in the promises of God, are duties which must be acknowledged by all those who believe in a Providence. . . . How wonderful is the power and knowledge which can regulate the universe and direct the secret thoughts of the human race, which can so connect the changes in the different parts of the material world, the very winds which blow, with the purposes of the heart of man, as in every instance to bring to pass that which is wise and proper.

— Dr. John Burns¹

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1. John Burns, *Principles of Christian Philosophy*, 2nd ed. (London, 1828), 279, 282–83. Dr. Burns, professor of surgery at the University of Glasgow, was the eldest brother of steamship owner George Burns, founding partner of the Cunard Company.

JULY

2007

VOL. 48

In their study of the “moral economy of the ocean steamship,” Smith, Higginson, and Wolstenholme explored how the values of a Liverpool Unitarian community shaped the design decisions of Alfred and Philip Henry Holt’s Ocean Steamship Company; analyzed Alfred Holt’s early high-pressure marine compound engines as responses to a moral imperative of maximum economy; linked Unitarian opposition to waste with the Holts’ crusades for reliability and safety; and discussed evidence provided by the *North American Review* (1864) for the Cunard Company’s avoidance of both extravagance and parsimony.²

This article examines the cultural and religious contexts that shaped the Cunard Company’s commitment to safety and reliability rather than to speed, luxury, or technological display. It thus shows how a particular form of evangelical Christianity, central to the theology of Scotland’s Thomas Chalmers, helped define the business and technological culture of the small group of Glasgow shipowners and engineers who created Samuel Cunard’s British & North American Royal Mail Steam Packet Company in 1840. Members of this group did not celebrate the ambitions of speed, experiment, and ostentation believed to increase human pride and tempt Providence. Rather, their version of evangelicalism looked to the fulfillment of God’s promises through honest and competent craftsmanship founded in experience.

There is ample evidence that by the third quarter of the nineteenth century Cunard’s line of steamers had acquired a reputation for safety and reliability unique among shipowners competing for passengers and mail on the dangerous North Atlantic routes. In 1866, for example, a contributor to the new journal *Engineering* advised readers that his own choice for crossing to the New World “would incline to those [ships] of the Cunard fleet” since they were as “safe as the Bank of England.”³ A decade later, William Lindsay asserted with italicized emphasis that over the company’s thirty-five years, “neither life nor letter entrusted to their care has been lost through shipwreck, collision, fire, or any of the too frequent causes of disaster, during the numerous voyages made by the Cunard steamers across the Atlantic.”⁴ And in the 1890s, Edwin Hodder, biographer of one of Cunard’s founding partners, quoted Mark Twain as saying “he felt himself rather safer on board a Cunard steamer than he did on land.”⁵

In Hodder’s view, the company’s reputation did not rely on radical innovations. “It was always the policy of the Company that others should

2. Crosbie Smith, Ian Higginson, and Phillip Wolstenholme, “Avoiding Equally Extravagance and Parsimony”: The Moral Economy of the Ocean Steamship,” *Technology and Culture* 44 (2003): 443–69, esp. 453–57.

3. “A Trip to America,” *Engineering* 1 (1866): 337–38. The anonymous author also claimed that the Cunard ships “offer many old-fashioned home comforts.”

4. W. S. Lindsay, *History of Merchant Shipping and Ancient Commerce*, 4 vols. (London, 1874–76), 4:239.

5. Edwin Hodder, *Sir George Burns Bart: His Times and Friends* (London, 1890), 301.

experimentalise,” he affirmed, “and when the novel principle had been proved by indubitable tests, then, and not till then, to introduce it into their next vessel.”⁶ Thus while Isambard Kingdom Brunel’s *Great Britain* had introduced the concept of a transatlantic iron-screw steamer in 1845, Cunard did not abandon the construction of wooden-hulled mail steamers before 1853, or paddle wheels before 1862. And while the Holts had introduced compound engines in 1866, Cunard waited another five years, preferring the reliable but coal-hungry side-lever engines whose Clyde pedigree dated to the 1820s. As we shall see, Cunard and his associates believed there were ways to “experimentalise” that would not imperil passengers’ lives.⁷

Cunard’s Glasgow circle contrasts strongly with that of the Unitarian Holts, who represented the new generation of steamship engineers and owners of the 1860s, among them Edward Harland. Sharing the Holts’s Unitarian perspective and links to railway engineering, Harland began constructing iron steamers with a radical length-to-beam ratio of 10:1.⁸ Over the previous thirty years, however, confidence in steamers had been far more volatile. Of the sixty-some Atlantic shipping ventures initiated up to 1861, for example, only six survived into the mid-1860s as transatlantic lines.⁹

Glasgow shipowner George Burns and marine engine-builder Robert Napier formed the core of the Clydeside network responsible for the Cunard venture. Both men had strong Presbyterian connections, including close friendship with Chalmers, Scotland’s most celebrated evangelical preacher of the first half of the century. Burns had built his reputation on wise management of a network of coastal and cross-channel passenger steamers trading from Glasgow to Ireland, the west of Scotland, and north-west England. Napier and his firm had earned the trust of shipowners for their reliable side-lever marine steam engines, wise designs, and excellent workmanship. Together, Burns and Napier seemed to exemplify John Burns’s remarks, quoted in the introductory epigraph, on the providential harmony between nature’s laws and the purposes of godly men, a harmony designed “to bring to pass that which is wise and proper.”

Several years before his involvement with the foundation of the Cunard Company in 1840, Napier had commented favorably on an English proposal for a steamship service between Liverpool and New York, but warned

6. *Ibid.*, 299.

7. More recent research notes the company’s cautious approach to innovation but does not explore the historical contexts. See especially N. R. P. Bonsor, *North Atlantic Seaway*, 5 vols. (Newton Abbot, U.K., 1975–80), 1:72–89; F. E. Hyde, *Cunard and the North Atlantic 1840–1973* (London, 1975), 27–33, 59 (on Cunard and technological innovation).

8. Michael S. Moss, “Harland, Sir Edward James, Baronet (1831–1895),” in *Oxford Dictionary of National Biography* (Oxford, 2004) (<http://www.oxforddnb.com/view/article/37511>, accessed 23 January 2006).

9. Bonsor. The six surviving lines were: Cunard, Inman, Allan, Anchor, Hamburg-Amerika, and Norddeutscher Lloyd. Cunard predated the others by more than a decade and far exceeded them in passenger safety.

JULY

2007

VOL. 48

that it was “of the utmost importance at first to gain the public confidence in steam vessels, for should the slightest accident happen so as to prevent the vessel making her passage by steam it would be magnified by the opposition & thus for a time mar the prospects of the company.” In Napier’s opinion, then, public confidence in steam vessels could not be taken for granted. Steam might offer regularity in principle if not in practice, but some oceangoing sailing ships—especially the New York packets engaged in the North Atlantic mail and passenger trade—had built an unprecedented reputation for reliability and safety.¹⁰

Napier’s warning was well-founded. Absence of trust in the new technology seemed to account for the failure of any passengers to join the American *Savannah* in 1819 for the first sail-aided-by-steam Atlantic crossing. In fact, President James Monroe could not even be persuaded to travel from Charleston to Savannah in the cause of national pride and progress.¹¹ Nor could science—natural philosophy—be relied upon to lend its authority to projects for transatlantic steamers. In December 1835, Liverpool’s *Albion* printed Dionysius Lardner’s warning that a project for direct voyages from New York to Liverpool under steam was “perfectly chimerical,” equivalent to talk of “making a voyage from New York or Liverpool to the Moon.”¹² Even three years later, when the feasibility of such voyages was amply demonstrated, Lardner continued to highlight the many practical challenges to safe, regular, and profitable transatlantic voyages, including the weather of the Gulf Stream, the long Atlantic swells produced by prevailing westerly winds, the danger of icebergs, the risk of fire, the likelihood of engine breakdown, and the fatigue of engineers and firemen.¹³

A deeply pessimistic Calvinism that emphasized the inevitable consequences of human depravity remained popular in nineteenth-century Scotland, especially among seafaring and rural communities. Chief among the evidence for human depravity was the sin of pride. Steamship partisans, like other enthusiasts for the new technologies of an industrial age, were especially vulnerable to accusations of hubris. Watching a steamboat depart

10. Robert Napier to Patrick Wallace, 1833, DC90/2/4/11, Napier Papers, Glasgow University archives. On the “opposition,” see R. G. Albion, *Square-Riggers on Schedule: The New York Sailing Packets to England, France, and the Cotton Ports* (Princeton, N.J., 1938). A summary appears in Stephen Fox, *The Ocean Railway: Isambard Kingdom Brunel, Samuel Cunard, and the Revolutionary World of the Great Atlantic Steamships* (London, 2003), 3–16. Fox notes (p. 15) that despite the year-round frequency of the voyages (twenty ships from New York to Liverpool, twelve to London, and sixteen to Le Havre), there were only two disasters over a twenty-year period up to the late 1830s, the worst of which involved the loss of forty-six persons.

11. Bonsor, 1:41–44.

12. *The Albion*, 14 December 1835, quoted in *ibid.*, 1:47–48. Frequently misrepresented as an arch-opponent in principle of all transatlantic steamships, Lardner was here speaking in support of a revived project using Valentia (southwest Ireland) as the key Atlantic port linked by a chain of rail and cross-channel steamer lines to London.

13. Hodder (n. 5 above), 189–91.

from Glasgow's Broomielaw into the teeth of a gale—something no sailing vessel would ever have contemplated—a contributor to *The Scottish Christian Journal* reported hearing another spectator predict that the “power will soon be taken out of God's hands.”¹⁴ Widely noted also were popular forebodings that it was “flying in the face of Providence to encourage [steam at sea].” John Scott Russell, for example, recalled that in 1816 the early steamer *Glasgow* had departed on a short sea passage described by “friends” of the ship's crew as “a tempting of Providence.”¹⁵ As we shall see, one promoter of steamships in such a cultural context knew exactly how to avoid accusations of impiety, pride, and overconfidence.

“Sailing in a Steam Chapel”

Minister of Glasgow's Barony Church from 1774, the Reverend John Burns followed a broad evangelical path that emphasized the fallen and helpless nature of man unless redeemed by the saving grace of Christ. This reading of Christianity cut across denominational differences and enabled him freely to attend Episcopalian (Anglican) services—anathema to earlier generations of Scottish Presbyterians—for the purposes of listening to English evangelicals.¹⁶

His youngest son George shared his father's commitment to evangelical Christianity, serving as treasurer of the “Penny-a-Week North-West District [Bible] Society” and delighting in anti-Unitarian sermons. His marriage in 1822 gave him access to Glasgow's elite commercial networks.¹⁷ His father-in-law, Dr. James Cleland, served as superintendent of public works between 1814 and 1834, overseeing construction of new agricultural markets, city churches, and Clyde bridges and the introduction of standardized weights and measures.¹⁸ He claimed to have been a key supporter, against

14. “The Modern Baal; or, the Railway God,” *The Scottish Christian Journal: Conducted by Ministers and Members of the United Presbyterian Church* 1 (1849): 156–58, quote on 156, referring to an event of some thirty years earlier. Located on the north bank of the Clyde at Glasgow just below the first of the bridges, the Broomielaw was the quay from which passengers usually arrived or departed.

15. Hodder, 154; John Scott Russell, “On the Late Mr John Wood and Mr Charles Wood, Naval Architects, of Port Glasgow,” *Transactions of the Institution of Naval Architects* 2 (1861): 141–48, quote on 142. The extent to which Calvinism permeated Scottish life, even in the second half of the nineteenth century as the young William Denny (1847–1887) was growing up, is evident from A. B. Bruce, *The Life of William Denny, Shipbuilder, Dumbarton* (London, 1888), 40–45.

16. His eldest son, also John, professed the same beliefs, but followed a medical vocation that took him to the new chair of surgery at the nearby university; see Hodder, 24–33, 36.

17. *Ibid.*, 59, 73–74, 93–98, 137.

18. Stana Nenadic, “Cleland, James (1770–1840),” in *Oxford Dictionary of National Biography* (Oxford, 2004) (<http://www.oxforddnb.com/view/article/5594>, accessed 23 January 2006).

JULY

2007

VOL. 48

“powerful influence,” of the earliest steam navigation on the Clyde (the *Comet*, 1812).¹⁹ In 1835, Cleland addressed the British Association for the Advancement of Science’s Statistical Section on a politically controversial system of poor relief introduced by his ally Thomas Chalmers.²⁰ His publications on Glasgow’s growing trade, business, and manufactures—such as the various editions of his *Former and Present State of Glasgow*—not only secured his reputation as the city’s leading social statistician, they greatly benefited the mercantile vocation of his son-in-law.²¹

Chalmers became minister of Glasgow’s Tron Church in 1815, where he delivered a series of weekday “Astronomical Sermons” that located humankind within a vast and divinely created universe of stars and planets. George Burns, who attended each of these, “was struck to find that many of [the congregation] . . . were the most unlikely he would have expected to see—rich and poor, learned and illiterate, religious and profane, all had flocked together to the [Tron] church that day.” His evangelical zeal fired, Burns quickly became part of a small inner circle within the Tron and later within St. John’s parish where Chalmers inaugurated his system of Christian political economy with the poor of the parish.²² On a foundation of godliness, Chalmers believed, even the poorest of communities, whether industrial or rural, could be made self-reliant and independent of institutionalized philanthropy.²³

Providence was no mere convention, but central to Chalmers’s Presbyterian theology: “We admit that His creative energy originated all, and that His sustaining providence upholds all.”²⁴ Unlike the deity of more extreme evangelicals, Chalmers’s God did not act arbitrarily through special warnings and punishments. Instead, nature’s laws were such that the sins of men

19. See, for example, James Cleland, *The Former and Present State of Glasgow* (Glasgow, 1840), 33.

20. Cleland would later lobby the association to hold its annual meeting in Glasgow. Jack Morrell and Arnold Thackray, *Gentlemen of Science: Early Years of the British Association for the Advancement of Science* (Oxford, 1981), 204, 293. On Cleland and Chalmers, see also Hodder (n. 5 above), 115.

21. Hodder, 65, 122.

22. *Ibid.*, 77–83. The published sermons went through nine printed editions in one year. See also Crosbie Smith, “From Design to Dissolution: Thomas Chalmers’ Debt to John Robison,” *British Journal for the History of Science* 12 (1979): 59–70, esp. 68n3.

23. Boyd Hilton, *The Age of Atonement: The Influence of Evangelicalism on Social and Economic Thought, 1785–1865* (Oxford, 1991), 55–63; Hodder, 103–4. In tracing the rise of evangelicalism in Britain, Hilton distinguishes between “moderate” and “extreme” versions. For an excellent cultural history of evangelicalism in the local context of Edinburgh, see James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago, 2000), 261–96 (“The Holy War”).

24. Thomas Chalmers, *The Works of Thomas Chalmers*, 25 vols. (Glasgow, 1836–42), 4:387–88. In such a “voluntarist” tradition of natural philosophy, God had absolute power to create or destroy his ordained laws, but these laws were in general maintained as uniformities by the continual, constant exercise of his ordained power and providence. See Smith, “From Design to Dissolution,” 62.

brought retribution from within the natural and moral order.²⁵ But to counter the inference that all nature was eternally independent of God (as deists argued), or needed no deity whatsoever (as materialists argued), Chalmers allowed for divine intervention in two ways. First, the omnipotent God could intervene directly in the visible world and suspend a law of nature. Such would be the case in divine miracles. Second, and much more frequently, God could intervene in the higher, invisible nature though still maintain the uniformity or constancy of the laws of visible nature. Such intervention might, for example, take the form of a trial of the Christian individual or community or it might occur in response to human prayer. In the latter case, then, human beings had a power of prayer “to move Him who moves the Universe.”²⁶

Chalmers illustrated these themes with Psalm 107:23–24: “They that go down to the sea in ships, that do business in great waters; These see the works of the Lord, and his wonders in the deep.” He urged his readers to interpret this passage as one in which God “raises the tempest, not without the wind, but by the wind.” Without the wind, it would have been a miracle; with the wind, “it is without any change in the properties or laws of visible nature.” Similarly, in response to the prayers of seafarers, God does not “bring the vessel against the wind to its desired haven; but he makes the storm a calm.”²⁷ Throughout his sermons, Chalmers also urged his congregations never knowingly to defy the laws of nature and thus tempt Providence to intervene by abrogating those laws: “[God] will chastise the presumption of those who shall think to contravene the ordinance.”²⁸ Instead, “God worketh by instruments”—that is, through “human beings employed as instruments for carrying His purpose into execution” in conformity to divine laws.²⁹

George Burns’s brother John, Glasgow University professor of surgery, distilled evangelical perspectives on Providence into his *Principles of Christian Philosophy: Containing the Doctrines, Duties, Admonitions, and Consolations of the Christian Religion* (1828). Like Chalmers, he held that Providence acted through nature’s laws in the material world, and that because man was a moral agent, his success depended on working with—not in defiance of—those laws.³⁰ According to Hodder, George “was wont to say that

25. Hilton, esp. 13–15, 64–67.

26. Chalmers was delivering a discourse titled “On the Consistency between the Efficacy of Prayer—and the Uniformity of Nature”; see Chalmers, 7:234–62, esp. 234–36; Smith, “From Design to Dissolution,” 62–63.

27. *Ibid.*, 7:243; 22:255 used the same verses in relation to great commercial storms.

28. *Ibid.*, 7:258–61, quote on 261. He was referring to Satan’s challenge to Christ to throw himself off a pinnacle of the temple (Matthew 4:5–7), to which Christ replied, “Thou shalt not tempt the Lord thy God.” Earlier, Deuteronomy 6:16 demanded: “Ye shall not tempt the Lord your God.”

29. Chalmers, 9:155, 157, 159.

30. Burns (n. 1 above), esp. 281–87, 295.

if he wished to give expression to his own views on Christian life generally . . . he could not do better than repeat the words of his brother in this work.”³¹

JULY

2007

VOL. 48

Around 1824, George and his merchant brother James became the Glasgow agents for a Liverpool firm with a small fleet of sailing vessels trading between the two ports, their appointment stemming from what the shipowner termed “personal fitness” for the task.³² Two years later, Burns secured the agency for a line of steamers between Belfast and Glasgow, but threatened to withdraw unless the company rescinded its decision that the steamers sail on Sundays in defiance of the Fourth Commandment. It apparently did so. Not for the last time would evangelical Christianity shape Burns’s shipping and shipowning practices.³³

More than most other areas of human suffering, the sea allowed extreme evangelicals to exploit the fears of nineteenth-century travelers. Early in his steamship-owning career, George Burns faced the consequences of one such lesson provided by the sea. The new steamer *Ayr* (part-owned by the Burnses) collided with the *Comet* (second steamer of that name) in the Firth of Clyde, sinking it with the loss of about seventy lives. The disaster fulfilled the gloomy prognostications of Scotland’s Calvinist preachers. One anonymous pamphleteer quickly highlighted “the fate of the *Comet* as a signal instance of the uncertainty of life, and the constant peril which besets those who ‘go down to the sea in ships.’” And while the *Edinburgh Observer* concluded that as a result of the disaster it would “require a considerable length of time to restore public confidence in steam navigation,” the *Edinburgh Weekly Journal* lamented in strong evangelical tones the tragedy of “so many immortal creatures . . . in a few brief seconds, hurried to their eternal audit.”³⁴

The press placed much of the blame for the collision and subsequent loss of life on the *Ayr*. The *Scotsman* sarcastically pointed to the advantage that steamers had over sailing vessels, given their capacity to escape danger through “their self-directing power”: “The captain of the *Ayr* panicked and sailed for Gourock. . . . Survivors claimed he even ran some of them down!” The disaster was a powerful lesson to George Burns as he contemplated entering steamship ownership on a larger scale. “Personal fitness” of masters and owners now became the guiding principle of his ventures. But confident that the old Presbyterianism with its presumption of inevitable disaster no longer held sway, his evangelicalism emphasized the importance of

31. Hodder (n. 5 above), 167.

32. *Ibid.*, 122–24, 145.

33. *Ibid.*, 152–55.

34. *Narrative of the Loss of the Comet Steam-packet, near Gourock, on the River Clyde, on Friday 21st October, 1825* (Greenock, 1825). The pamphlet published extracts from contemporary newspaper accounts, including the *Edinburgh Observer* and *Edinburgh Weekly Journal*.

combining (in Chalmers's phrases) "the wisdom of experience" with a "sense of deepest piety." These principles could persuade a fearful public to place confidence in human instruments working in obedience to the natural and moral laws of God.³⁵

By the late 1820s George Burns had won the confidence of immediate doubters (including his brother James and his senior partner Hugh Matthie) to replace most of the sailing vessels trading between Liverpool and Glasgow with steamers. Matthie even proposed that the first such ship, completed early in 1829, be named the *Doctor* after John Burns, "who was then one of the most popular men in Glasgow."³⁶ George opted instead for *Glasgow* and *Liverpool* and had them constructed by John Wood of Port Glasgow and Robert Steele of Greenock, firms known for their long experience as builders of strong, sea-kindly, and elegant wooden hulls.³⁷ Burns seemed to know the value of the "wisdom of experience"—especially that of the shipbuilders—in building public confidence into his steamers. Passengers from the *Liverpool's* maiden voyage in July 1830 inserted a notice in the press expressing their appreciation of vessel and master.³⁸

Burns announced Friday departures so that he might maintain his principle of avoiding Sunday work whenever possible. His senior partner pointed out that canal freight arrived in Liverpool from inland sites on Saturdays and suggested sarcastically that Burns might provide chaplains to allow for such Saturday departures. Burns replied that he "thought very well of the suggestion about providing chaplains, and that he and his brother would pay the entire expense" on a trial basis, thus defying popular superstitions about Friday departures and the presence of clergymen on-board. (Mocking the practice, wits on Glasgow's Broomielaw, departure point for passengers, suggested that the master of one ship was "[s]ailing in a steam chapel.")³⁹

Throughout, Burns seems to have regarded his role in steamship ventures as a divine calling, similar to a call to the ministry. Monitoring the passage of the Steamboat Bill through the House of Commons in 1832, he arranged for church services on his new steamer *Liverpool*, writing his wife,

35. Chalmers (n. 24 above), 7:258–59.

36. Hodder, 156–57.

37. Wood's experience with steamer hulls extended back to the first *Comet*. His brother Charles was known among contemporaries to have constructed large vessels with the same length-to-beam ratio (6:1) as Noah's ark. See Russell (n. 15 above), 147.

38. C. L. D. Duckworth and G. E. Langmuir, *Clyde and Other Coastal Steamers*, 2nd ed. (Prescot, U.K., 1977), 3.

39. Hodder (n. 5 above), 157–58. Later Scottish steamship owners showed less concern for Sabbath observance, calling forth the condemnation of the established presbytery of Glasgow: "[T]hat which you have created amounts to a virtual abrogation of the divine ordinance and practically excludes it from the statute-book of Heaven." See Andrew Paton, *The Sunday Steamer: Remonstrance of the Established Presbytery of Glasgow with the Answers of the Owners of the Steamer Emperor* (Glasgow, 1853), 3.

“It was delightful to hear the voice of praise raised on the bosom of the Thames. I dare say the surrounding crowds of shipping were surprised”; and that he was “endeavouring in the strength of Christ to fight hard in this department of the Christian warfare. It is the hardest struggle in which I was ever engaged, but in some shape or other we must encounter the enemy. . . .”⁴⁰

JULY

2007

VOL. 48

For Burns, trust in Providence and the implementation of divine will in matters of steamship practice translated into increasing levels of confidence from the traveling public. In fulfilling promises to convey passengers and freight safely and reliably at sea, G. & J. Burns became the embodiment of trust. As Hodder later noted, with “splendid steamers, good captains, an excellent system of business, and a wide influence, the Glasgow Company carried everything before it.”⁴¹

Early vexation with his Irish Sea venture did arise in 1831, however, when the Liverpool-based Scot David MacIver established a rival Liverpool-to-Glasgow service, the City of Glasgow Steam Packet Company. Capitalized by wealthy cotton broker James Donaldson and supported by the engineering expertise of Robert Napier, MacIver “vowed that he would, if possible, drive the Burns’s off the seas,” confessing that he “had travelled in the *City of Glasgow* backwards and forwards between Liverpool and Glasgow, going down himself into the engine-room to superintend the firing of the furnaces, in order that he might leave nothing undone” to break the Burnses’ monopoly on steam. Between 1832 and 1835 three new steamers built by Wood and engined by Napier joined the company. Cleland later reported that in 1835, the last of the trio, the second *City of Glasgow*, made the passage from Greenock to Liverpool in under eighteen hours, compared to Burns steamers’ 1831 average of about twenty-four hours. Unable to match the Burnses’ reputation and profits, however, MacIver agreed to George Burns’s offer to combine the fleets on a division of revenue ratio of two-fifths (MacIver) to three-fifths (Burns). The arrangement was honored and a powerful new bond of trust built among the Burns brothers, MacIver and his brother Charles, Donaldson, Wood, and Napier.⁴²

40. See George to Jane Burns, 2 July and 12 June 1832, in Hodder, 174–76.

41. *Ibid.*, 159. The firm added three new steamers in 1832. See Duckworth and Langmuir, 4. On the issue of trust linked to experience, see Alison Winter, “‘Compasses All Awry’: The Iron Ship and the Ambiguities of Cultural Authority in Victorian Britain,” *Victorian Studies* 38 (1994): 69–98. Winter describes William Scoresby—evangelical clergyman and former whaling captain—as exemplifying to the Victorians what a trustworthy person could and should be.

42. Duckworth and Langmuir, 99–101, 188–89; Hodder, 160–63; Cleland (n. 19 above), 14. Emphasizing the close personal and financial interconnections, the first two MacIver steamers were named *John Wood* after the hull builder and *Vulcan* after Napier’s engine works.

“The Great Authority on Steam Navigation”

While obedience to the scripturally grounded moral law formed the most visible part of George Burns’s management of coastal steamships, marine engine-builder Robert Napier exemplified John Burns’s dictum that, under Providence, “success and skilful exertion are connected together.” Napier’s guiding principle was to inspire confidence in all his steamers, a goal he implemented through a three-fold process: first ensuring that the machinery was designed and constructed to the highest standards of accuracy and reliability; second, entrusting hull construction only to shipbuilders with a reputation for excellence both in the quality of the work and in the design of the ship; and third, supervising the practical integration of both engines and hulls to achieve a vessel capable of fulfilling the purposes for which it was intended. As a result, Napier became “the great authority on steam navigation.”⁴³

Napier’s family, located in the ancient town of Dumbarton downriver from Glasgow, originally intended him for the kirk, but he apparently persuaded his blacksmith father to allow him to follow mechanical pursuits. His cousin David had already entered the field, constructing the boiler for the first *Comet*, engineering and owning the *Rob Roy* as the first cross-channel steamer in 1818, and establishing an engine works at Lancefield on the River Clyde west of Glasgow in the early 1820s.⁴⁴ Robert took a lease on his cousin’s foundry at Camlachie, at Glasgow’s east end, in 1821 and appointed as works manager David Elder.

Elder, a self-effacing former millwright, had already “gained a wide reputation in the north as a skilful designer, and an energetic and successful director of large works.”⁴⁵ He quickly established himself in Napier’s employ as a craftsman who “would turn out nothing but the most solid work, on which he put the most accurate finish.”⁴⁶ In fact, he designed all of Napier’s

43. See letter from Chalmers to James Napier, in James Napier, *Life of Robert Napier of West Shandon* (Edinburgh, 1904), 35–36. In later years, Napier’s extensive library at his West Shandon residence contained a twenty-volume set of Chalmers’s *Works*, as well as a fourteen-volume set of the *Posthumous Works and Life* edited and authored by Chalmers’s biographer, Rev. William Hanna. The printed catalog of Napier’s library, established for the sale of the collection, is in the Museum of Transport Archives, Glasgow. We thank Martin Bellamy for this reference.

44. *Ibid.*, esp. 4 (on Robert Napier’s early life) and 18–27 (on David Napier).

45. “The Late Mr David Elder,” *Engineering* 1 (1866): 103. The anonymous author was most probably James Robert Napier, Robert’s eldest son, who wrote “Memoir of the Late Mr David Elder,” *Transactions of the Institution of Engineers in Scotland* 9 (1866): 92–105. Born in 1785 in Kinross, Elder came from a family of wheel- and millwrights. “In consequence of religious strife in the district,” he was largely self-taught in geometry, algebra, and millwork: “[W]hen his seniors would be devoutly employed at a tent-preaching, David Elder would be found studying hydraulics before some old water-wheel in the neighbourhood, or the architecture of some old castle” (“Memoir,” 92–93).

46. Napier, *Life of Robert Napier*, 30.

JULY

2007

VOL. 48



FIG. 1 Portrait of the 350-ton paddle steamer *Isabella Napier* (1835), fitted with 220-horsepower side-level engines, defying the strong onshore wind and sea dreaded by sailing vessels and fighting its way from the Clyde to Londonderry in the service of the North-West of Ireland Steam Packet Company. (Source: James Napier, *Life of Robert Napier of West Shandon* [Edinburgh, 1904].)

marine engines for four decades, beginning in 1823 with the small river steamer *Leven*. The journal *Engineering* wrote at the news of the works manager's death in 1866: "Possessed of superior taste, Mr Elder succeeded in giving a new character to this class of work, and Mr Napier's factory was soon filled with engines for a number of steamboats, not only for the Clyde but for service between Glasgow, Belfast, Londonderry, and Liverpool, and between Aberdeen and London, and Dundee and London" (fig. 1).⁴⁷

Unlike the promises Brunel would make for the *Great Britain* and *Great Eastern*, Napier carefully avoided predicting what his ships would accomplish and let their performances speak for themselves. The Dundee steamers demonstrated that Napier's engines could steam continuously for over twenty-four hours, and when they arrived in the Thames they became "one of the sights of London."⁴⁸ Napier and Elder developed other ways of building public confidence without risking public safety through speculative experiment. In 1827, for example, they engined the two steam yachts that won the first two places in a race staged by the Northern Yacht Club. Attracted by this widely publicized triumph, Thomas Assheton Smith, a "powerful English gentleman" and member of the prestigious Royal Yacht Squadron, commissioned a steam yacht from Napier. Built by John Wood and fitted with dou-

47. Napier, "Memoir," 103.

48. Napier, *Life of Robert Napier*, 49–55.

ble side-lever engines, the *Menai* would cost over £20,000, but such was Assheton Smith's confidence in Napier that he apparently never visited the yacht during construction and indeed went on to order eight more such vessels between 1838 and 1851.⁴⁹ Unlike experiments with commercial vessels where unforeseen accidents could ruin the reputations of everyone concerned, such private commissions facilitated the practical demonstrations that brought prestige to the marine engineers when they succeeded and carried few risks if they failed.

In the business practices that emerged by the early 1830s, Napier (with Elder) negotiated the contracts, subcontracted the wooden hull construction to Wood, and constructed and fitted the engines. In a letter to Wood in 1841, Napier told his shipbuilder that he had “uniformly in England and Scotland held you and your work up as a pattern of all that was excellent, and I have never yet had it proved to me that I was mistaken.” The character of the man and the character of his work had become indistinguishable.⁵⁰

On “intimate terms with the Duke of Wellington and other members of the aristocracy,” Assheton Smith provided Napier with access to the East India Company. Long associated with “old corruption,” in the language of its critics during an era of Whig governments espousing rhetorics of progress, the venerable company began to reinvent itself as reform-minded.⁵¹ Integral to this new age of improvement, the traditional “East Indiamen,” the large sailing ships that carried valuable freight, mail, and passengers to and from India round the Cape of Good Hope, would give way to steamers running

49. *Ibid.*, 37–47.

50. *Ibid.*, 51, 94–95. Soon after Wood's death, John Scott Russell—himself indebted to Wood—praised the Port Glasgow shipbuilder: “He was a consummate artist in shipbuilding, and every line was as studied and beautiful as fine art could make it. John Wood was in fact a pattern shipbuilder” (Russell [n. 15 above], 145). “A pattern shipbuilder” in Wood's case meant that he laid down the “pattern” for the new ship—perhaps the forerunner of a new class—by deciding on the form, or model, of the hull and, thus, for the frames and planking. Neighboring shipbuilders might then, by agreement, replicate the model thus established by copying each frame. The first four Cunard ships were constructed in this manner.

Wood later contributed to the design of a schooner for the purpose of conveying ministers of Chalmers's Free Kirk—formed as a result of the schism (the 1843 Disruption) in the Church of Scotland—around remote parishes on the west coast; see Lionel Alexander Ritchie, “Wood, John (1788–1860),” in *Oxford Dictionary of National Biography* (Oxford, 2004) (<http://www.oxforddnb.com/view/article/61914>, accessed 24 January 2006). See also L. A. Ritchie, “The Floating Church of Loch Sunart,” *Records of the Scottish Church History Society* 22 (1985): 159–73. Wood was also involved in a project for a floating church to be moored in the sheltered waters of the remote Loch Sunart on the Scottish mainland opposite Tobermory, Isle of Mull (Ritchie, “The Floating Church of Loch Sunart,” 168–69).

51. P. J. Cain and A. G. Hopkins, *British Imperialism, 1688–2000* (Harlow, U.K., 2002), 278–84. Under the “utilitarian” leadership of Lord William Bentinck, Governor-General of India (1828–1835), the new order was to be based on rational government rather than patronage and nepotism.

between Bombay and Suez. In 1835, Napier received the contract for one of two such East India steamers. "What is more," he told a business friend, "they have given me my own way with the vessel, trusting to my honour in everything. The surveyor has been thrown overboard along with his specification, so that if we do not make a good vessel we will have ourselves to blame."⁵²

JULY

2007

VOL. 48

Upon completion of the *Berenice's* outward voyage to Bombay, its commander told Napier that his ship had beaten the English-built partner by eighteen days, and told his superior that the vessel had suffered little as a result of the long voyage.⁵³ Such favorable testimony from those serving in the new-look East India Company not only elevated Napier's stature, it also brought him into personal and social contact with the chief secretary to the Court of Directors, James C. Melvill. In September 1838, for example, Melvill informed Napier that the court "have awarded the sum of £700 as an acknowledgment of the sense which they entertain of your conduct" over the *Berenice's* performance (fig. 2).⁵⁴

James Melvill's brother, the eloquent evangelical Canon Henry Melvill of St. Paul's (and principal of the East India College at Haileybury from 1844), also formed a close friendship with Robert Napier. When Robert's brother Peter became minister of Glasgow's Blackfriars Church (known as the College Church) around 1844,⁵⁵ Robert sent Henry Melvill a copy of Peter's sermons, and the canon responded in a humorous vein that reflected their shared distaste for extreme evangelicals:

They [the sermons] are excellent both in matter and style, quite good enough for Episcopalians; I had almost said too good for Presbyterians. Certainly if the hearers of such sermons object to the preacher they ought to be doomed to some ranting raving fellow who will wear out a red cushion in twenty-four hours.⁵⁶

The common ground of evangelical Christianity did much to forge the strong links between Napier and Burns, on the one hand, and Napier and the Melvills on the other. The Cambridge-educated Henry Melvill was himself no stranger to maritime concerns. In a sermon delivered before the Corpor-

52. Robert Napier to George Duncan, 15 May 1835, in Napier, *Life of Robert Napier* (n. 43 above), 56–62, quote on 62. On the company's long maritime traditions of trading between London and the East and the decline of the company's fleet during the early decades of the nineteenth century, see Russell Miller et al., *The East Indiamen* (Amsterdam, 1980), esp. 167–69.

53. Captain Grant, I.N., to Robert Napier, 24 June 1837, and official report to the Superintendent of the Indian Navy, in Napier, *Life of Robert Napier*, 64–67.

54. James C. Melvill to Robert Napier, 7 September 1838 (transcript), Napier Collection, Glasgow Museum of Transport Archives.

55. See [Anon.], *Memorial of Old College Church (Blackfriars')*, Glasgow (Glasgow, 1876).

56. Henry Melvill to Robert Napier, 5 February 1845, in Napier, *Life of Robert Napier*, 163–64.

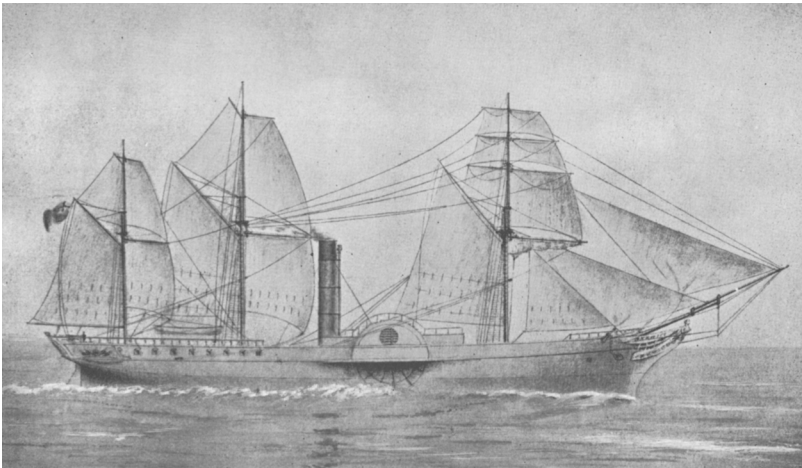


FIG. 2 The East India Company's 646-ton paddle steamer *Berenice* (1836), engined by Robert Napier and designed to carry passengers and mail between Suez and Bombay. (Source: James Napier, *Life of Robert Napier of West Shandon* [Edinburgh, 1904].)

ation of Trinity House in 1840, the year of Cunard's first transatlantic steamers, the canon preached on the theme of "Christianity [as] the guardian of human life." By acting on Christian principles, the corporation had become preeminently the guardian of human life at sea and an illustration of "the truth that Christianity is a life giving thing" designed to throw "fresh ardency into the conflict with death." Most of all, pilots, whom the aptly named Trinity House "authorise[d] . . . as guardians of property and life," demanded "incessant attention" to prevent the admission of those "whose unworthiness might have been known." Thus "the pilot who cannot steer the labouring ship, like the pastor who cannot guide the wandering soul, is risking men's eternity; the one may cut off opportunities of repentance, as the other may fail to impress its necessity; both, therefore, may work an everlasting injury." Rising to the occasion with full evangelical fervor, Melvill held out a vision of the day of judgment and the end of all things:

Then shall many a noble ship, freighted with reason, and talent, and glorious and beautiful things, be broken into shreds. . . . And the only vessels, which shall ride out the storm, shall be those which, having made the Bible their map, and Christ their light, steered boldly for a new world, in place of coasting the old.⁵⁷

57. Henry Melvill, *Sermons, Preached on Public Occasions* (London, 1846), 20–24. The volume includes five such sermons, delivered at two-year intervals between 1838 and 1846. We should note how Melvill's rhetoric, far from drawing out superficial analo-

JULY

2007

VOL. 48

Napier's steamship ventures had already begun to steer boldly "for a new world, in place of coasting the old." Although the *Berenice* represented his first oceangoing steamer, in 1833 he had acted as consultant to a London correspondent exploring the feasibility of launching a regular steamship service between Liverpool and New York. In a detailed manifesto of promise, Napier put initial cost second to the goal of setting "all opposition at defiance" and giving "entire confidence to the public." Upon this "depends entirely the success, nay, the very existence, of the Company."⁵⁸

In the mid-1830s, an ambitious American, Junius Smith, gave Napier the opportunity to fulfill this manifesto. The recently formed British & American Steam Navigation Company had godly men at its helm. Smith had been brought up in the Congregational Church in New England, and while in London "was united in church fellowship under the ministrations of the [Anglican evangelical] Henry Melvill." Consistent with these loyalties, he could also write of how he had been "guided by Providence" in the early stages of the venture.⁵⁹ Because of his exploits in West Africa, which promised to open up the interior to Christian missionaries and vanquish the evils of slavery, company secretary Macgregor Laird had even stronger evangelical credentials. Brother of Birkenhead iron shipbuilder John Laird, Macgregor knew Napier well and entered into negotiations whereby Napier would supply engines and supervise hull construction of the first large steamer.⁶⁰

Intended by Smith to be both the largest and "the most splendid steam ship ever built," the 1,800-ton *British Queen* finally entered service in June 1839 (fig. 3). Undercut by other Glasgow engine builders who subsequently went bankrupt, Napier had taken over the contract late in the construction

gies between pilotage and Christian leadership, left his audience in no doubt of the profound interdependence of the two vocations.

58. Robert Napier to Patrick Wallace, 3 April 1833, DC90/2/4/11, Napier Papers, Glasgow University Archives. This cautious draft version differs from the more assertive version printed in Napier, *Life of Robert Napier*, 102–13. These remarks appear in the printed version only.

59. For Smith's religious context, see E. Leroy Pond, *Junius Smith: A Biography of the Father of the Atlantic Liner* (New York, 1971 [1927]), esp. 22–23 (Melvill), 88 (Providence). Bonsor (n. 7 above), 1:54, explains that Smith's original prospectus for £100,000 (June 1835) found no support. "Prospectus of the British and American Steam Navigation Company" (Napier Collection, Glasgow Museum of Transport) shows how ambitious the company was. Seeking a capital of £1,000,000, it proposed no less than eight 1,200-ton steamships, each with 400-horsepower engines. Sailings would be weekly to New York, with the departure port alternating between London and Liverpool. Providing detailed statistics on likely passenger numbers and running costs, it anticipated an attractive profit of almost £100,000 per annum. See also Napier, *Life of Robert Napier*, 114. Bonsor (1:54) states the capital as £500,000.

60. John Flint, "Laird, Macgregor (1808–1861)," in *Oxford Dictionary of National Biography* (Oxford, 2004) (<http://www.oxforddnb.com/view/article/15895>, accessed 23 January 2006).

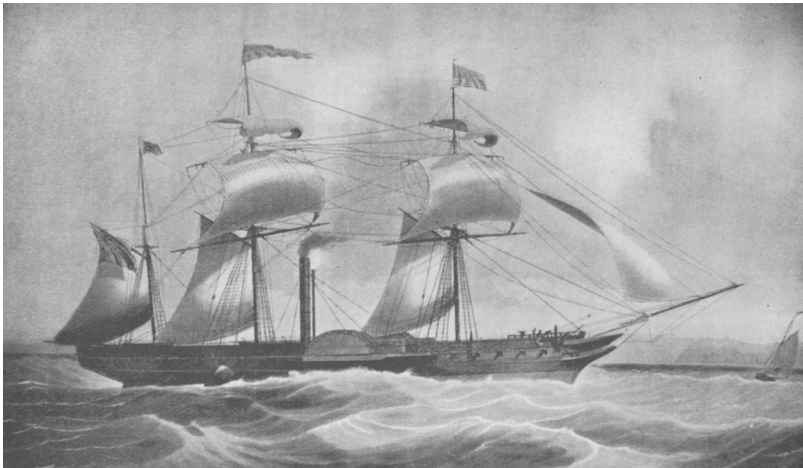


FIG. 3 The £60,000 *British Queen*, the largest steamer afloat when completed (1839). Construction delays, disappointing performance, and the disappearance of its consort *President* (1841) ended its owners' vision of dependable transatlantic service. (Source: James Napier, *Life of Robert Napier of West Shandon* [Edinburgh, 1904].)

process and in a manner wholly uncharacteristic of his well-established practice of integrating Elder's engine-building skills with Wood's craftsmanship.⁶¹ The delays, in part occasioned by work to strengthen engine beds and install Samuel Hall's new patent surface condensers, had damaged Napier's engineering reputation and led to fierce controversy in the press over the decision to engine the London-built ship in Scotland.⁶² Meanwhile, the company chartered the cross-channel steamer *Sirius* in order to secure title to the first transatlantic steamship service from Brunel's *Great Western*.⁶³

61. Pond; Napier, *Life of Robert Napier*, 114–15. See also Fox (n. 10 above), 71–72, 74, 75–76. Curling & Young, a high-quality yard on the Thames, constructed the hull. They apparently built East Indiamen before turning to steam in the mid-1830s and building, to Admiralty specifications, paddle steamers for mail service with the Peninsular Steam Navigation Company (later P&O). See Philip Banbury, *Shipbuilders of the Thames and Medway* (Newton Abbot, U.K., 1971), 162–63.

62. Smith, writing in January 1839, suspected that the delays were caused by Napier giving priority to his favored customers, including the Admiralty: “[F]rom the extraordinary and most unjustifiable delay I think no confidence can be placed in him.” See Pond, 167; Napier, *Life of Robert Napier*, 116–17; and correspondence on delays from the *Mechanics Magazine*, in Fox, 80–81.

63. The often-told story of the “race” is given in Bonsor, 1:54–56, and Fox, 76–80. Curiously, Fox dismisses the *Sirius*'s crossing as a “heedless, dangerous publicity stunt, a desperate gambit by sore losers.” The 700-ton steamer, engined by Thomas Wingate of Glasgow, was a substantial vessel, little different from the original projected size of Cunard's steamers.

JULY

2007

VOL. 48

When the *British Queen's* larger consort the *President* disappeared without trace early in 1841, all remaining consensus within the company disintegrated. Laird's pride had been the Liverpool-engined ship, but in Smith's private opinion, he had earlier sought to "gratify a malignant revengeful disposition" after failing to win public recognition of his role in transatlantic steam. As a consequence of Laird's sinful thoughts, Smith suggested—with more than a hint of a Calvinist's vengeful deity—that "it seems as if Providence visited his *motives*." The loss of the world's largest steamship ruined an already overstretched company, and the *British Queen* ceased trading along with her owners.⁶⁴ Napier's prognostications about the consequences of accidents to Atlantic steamers had been realized.

Nevertheless, the ability to cross the Atlantic westward by steam had been demonstrated by the *Sirius* and *Great Western* in 1838, and this encouraged the new Admiralty Comptroller of Steam Machinery and Packet Service, former Arctic explorer and devout evangelical Sir Edward Parry, to solicit tenders for a steamer mail service between England and America. Parry's friend George Burns, heavily involved in his network of coastal steamers, did not immediately respond.⁶⁵ Interest was, however, expressed by a merchant and shipowner from Halifax, Nova Scotia, who entered the Scottish maritime community of steamship builders and owners at the close of the decade.

The British & North American Royal Mail Steam Packet Company

Early in 1839, Napier told James Melvill that a Mr. Samuel Cunard from Halifax had approached him indirectly with regard to "some steam vessels" and that Cunard required "a reference to some person in London." Napier requested that Melvill "deal as leniently and favourably with my character to him as you can with propriety do."⁶⁶ Already impressed by the *Berenice's* performance, Melvill thus strongly advised Cunard to "put himself in Napier's hands."⁶⁷

64. Bonsor, 1:56–58; Pond, 210–22, esp. 213, 216 (Smith on Laird); Fox, 99–101 (loss of the *President*). Napier's son James Robert later used the loss to highlight Elder's very different character: "[T]he fate of the 'President' will by those who saw her deformed state, and the means taken to hide it before her departure on her last voyage, be ascribed to a want of anxious caution and forethought on the part of her constructors, which was so thoroughly engrained in Mr Elder's character." See Napier, "Memoir" (n. 45 above), 101.

65. Hodder (n. 5 above), 191–92, 206–9. Cunard had encountered Parry in Halifax as early as 1816; see Kay Grant, *Samuel Cunard: Pioneer of the Atlantic Steamship* (London, 1967), 41.

66. Robert Napier to James C. Melvill, 28 February 1839 (transcript), Napier Collection, Glasgow Museum of Transport. Napier appeared not to realize that Melvill had already advised Cunard to consult him.

67. Napier, *Life of Robert Napier*, 123–24. With Quaker origins and a strong loyalty

Cunard wanted “one or two steamboats of 300 H.P. and about 800 tons” and had heard that “Messrs Wood and Napier are highly respectable Builders.” He required his own vessels “to be of the very best description and to pass a thorough inspection and examination of the Admiralty . . . plain and comfortable boat[s], but not the least unnecessary expense for show.”⁶⁸ Napier’s reply listed virtually every owner he and Wood had supplied, naming in each case both ship and the person responsible for the management of the company. “To any of these parties,” he told Cunard’s agent, “you are at full liberty to apply in order to ascertain the manner I fulfilled my contract for these vessels.”⁶⁹

Cunard traveled to Glasgow to meet Napier at Lancefield House (fig. 4), Napier’s home located near the engine-building works on the Clyde. There, he committed to ordering three vessels on the understanding that Napier would lower his initial offer of £32,000 to £30,000 per vessel.⁷⁰ Prior to Cunard’s second visit to Glasgow in mid-March 1839 to collect copies of plans and specifications drawn up in the interval, Napier—who believed that the size of the ships invited failure—reconsidered the project and advocated larger vessels. When Cunard resisted on the grounds of increased capital cost, Napier warned that “if these small vessels did not succeed they would

to Britain, an earlier generation of the Cunard family had migrated from the United States to Nova Scotia in the wake of the American War of Independence. Samuel’s parents, however, attended the Episcopal (Anglican) Church, and his devout wife Susan had strong Scottish Presbyterian roots (her grandfather was a minister of the kirk). Samuel himself learned the business of ship-broking in Boston, and around 1815 established a packet service linking Halifax with Newfoundland, Boston, and Bermuda. His commercial interests included whaling, land, ironworks, canal projects, lumber, fishing, and coal mines, giving him power and influence in diverse fields. See Grant, esp. 17, 33 (Cunard family and religion), and Hyde (n. 7 above), 1–5 (Cunard business and shipping interests). Fox (n. 10 above), 39–55, draws on the Cunard family research of Phyllis Ruth Blakeley, former provincial archivist for Nova Scotia, to claim that Cunard’s mother, Margaret Murphy, had Irish Catholic roots. Given this denominational mix and his mother’s alleged alcoholism, Samuel appears to have chosen Presbyterian values deliberately, sending his younger brothers to a private school run by a Presbyterian minister and devoting himself to his wife’s legacy of strong puritan principles after her death in 1828. From 1839 on, his shipping interests would be even more strongly linked to associates with Scottish Presbyterian principles, namely, Napier, Burns, and MacIver.

68. Samuel Cunard to Kidston & Sons, 25 February 1839, Cunard Papers, Liverpool University Library, reprinted in Napier, *Life of Robert Napier*, 124–25. William Kidston (Cunard’s agent in Glasgow) had spent much of his life in Halifax as a merchant before returning to Glasgow to develop his shipping and shipowning interests. See Hyde, 5–6, and W. J. Harvey and P. J. Telford, *The Clyde Shipping Company Glasgow 1815–2000* (Cleckheaton, U.K., 2002), 10.

69. Robert Napier to Kidston & Sons, 28 February 1839, in Napier, *Life of Robert Napier*, 125–29.

70. See Robert Napier to G. & J. Burns, 28 January 1841, in *ibid.*, 129–31; Robert Napier to Reid Irving & Co., 12 March 1839 (transcript), Napier Collection, Glasgow Museum of Transport.

JULY

2007

VOL. 48

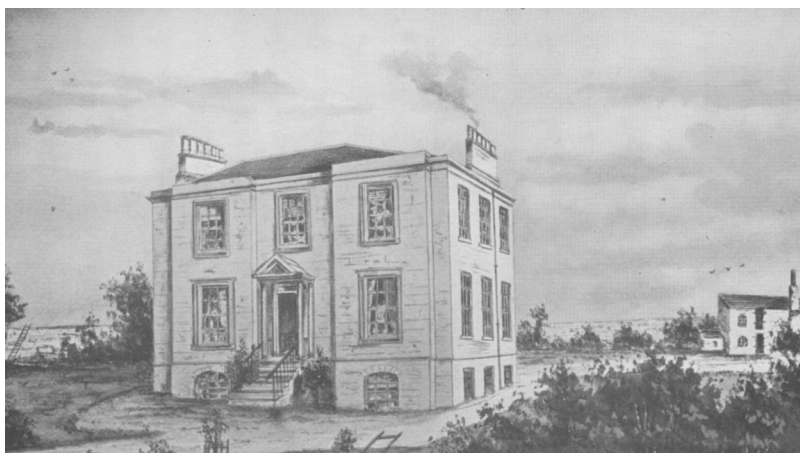


FIG. 4 Robert Napier's Lancefield House, near Glasgow, meeting place of the original partners in Cunard's transatlantic line of steamers. (Source: James Napier, *Life of Robert Napier of West Shandon* [Edinburgh, 1904].)

do him [Napier] more injury in character than any money he could gain would benefit him." The two men then reached an agreement: tonnage would rise to 960 and horsepower to 375. "From the frank off-hand manner in which he contracted with me, I have given him the vessels cheap," Napier assured Melvill, "and I am certain they will be good and very strong ships."⁷¹

"Good and very strong ships" meant avoiding any ingenious inventions for hulls and engines, such as the patented surface condensers purporting to prolong boiler life that Cunard had early brought to Napier's attention. Napier dismissed them out of hand. "I was quite prepared for your being beset with all the schemers of every description in the country," he told Cunard. "[I] think it right to state that I cannot and will not admit of anything being done or introduced into these engines but what I am satisfied with is sound and good. Every solid and known improvement that I am acquainted with shall be adopted by me, but no patent plans." Inventions such as these could promise to save on construction or operating costs, but they were more likely to tempt Providence by undermining the moral and physical quality of the vessel.⁷² Some of Napier's peers were more accepting. In

71. See Napier, *Life of Robert Napier*, 131–33; Robert Napier to James C. Melvill, 19 March 1839 (transcript), A. C. Kirk Collection, Glasgow Museum of Transport.

72. Samuel Cunard to Robert Napier, 21 and 25 March 1839, Napier Collection, Glasgow Museum of Transport; Napier to Cunard, 27 March 1839 (transcript), A. C. Kirk Collection, Glasgow Museum of Transport (excerpted in Napier, *Life of Robert Napier*, 136–37); Cunard to Napier, 1 April 1839 (actually 29 March 1839), Napier Collection, Glasgow Museum of Transport. Napier and Elder had a bad experience with Hall's patent surface condensers for the *British Queen* engines; see Bonsor (n. 7 above), 1:56.

1833, Junius Smith, for example, had written of acquiring an 800-ton steamer under construction on the Thames for transatlantic service: “If she goes, it will be experimentally, and if found to answer, another of the same class will be added.” And in the 1850s, the Collins Line apparently allowed experiments with fuel-saving devices to be conducted while the ships were in passenger service.⁷³ With Cunard’s steamers, however, there would be neither patents nor experiments.

When Cunard informed Napier that he was also receiving “several” rival offers from Liverpool and London builders, Napier’s reply stressed the moral value of honest work rather than words. “I am sorry that some of the English tradesmen should indulge in speaking ill of their competitors in Scotland,” he said. “I shall not follow their example, having hitherto made it my practice to let deeds, and not words, prove who is right or wrong.” Instead, he limited himself to advising Cunard to “court comparison of my work with any other in the kingdom, only let it be done by honest and competent men.”⁷⁴

Cunard’s confidence in Napier, Elder, and Wood as “honest and competent men” had three foundations. First, it rested on Melvill’s word as a trustworthy gentleman at the heart of the old English establishment. Second, Cunard had also seen Napier—and Napier’s works—for himself during his two visits to Glasgow. And third, he now knew much more of Napier’s already high reputation as a marine engine builder and of Wood’s reputation as a first-class shipbuilder. His response to the criticisms of English builders was simply to point to “the model” of Napier and Wood’s recent steamers.⁷⁵ From the outset, indeed, Cunard placed his faith in Wood and asked Napier to tell his builder that “if he does not build them all I shall still look to him to see that they are well and faithfully built.”⁷⁶

73. Pond (n. 59 above), 35. Smith’s letter is dated 6 February 1833, just two months before Napier’s evaluation. It is possible that Napier was advising the same group of projectors in London. On Collins and “experiment,” see especially Ben Marsden and Crosbie Smith, *Engineering Empires: A Cultural History of Technology in Nineteenth-Century Britain* (Basingstoke, U.K., 2005), 112–15.

74. “You have no idea of the prejudice of some of our English builders,” Cunard wrote, “and when I have replied that I have contracted in Scotland they invariably say ‘You will neither have substantial work nor completed in time.’” Samuel Cunard to Robert Napier, 21 March 1839; Napier to Cunard, 27 March 1839. See also Hyde (n. 7 above), 6. Napier’s style echoed that of fellow Presbyterian James Watt, who had urged his more publicity-conscious English partner Matthew Boulton to “let us be content with *doing*.” See Marsden and Smith, 60.

75. Samuel Cunard to Robert Napier, 1 April 1839, Napier Collection, Glasgow Museum of Transport. “The model” referred specifically to the lines or form of the hull, “read off” a builder’s “half model,” constructed to represent precisely one complete longitudinal section of the ship, which could then be laid flat to take scaled measurements of the positions and shapes of each of the many transverse frames. In this case, it also suggested an exemplary realization, resonating with John Wood’s reputation as “a pattern shipbuilder” whose designs and moral standing provided models of practice for others to follow.

76. Samuel Cunard to Robert Napier, 21 March, 1 April, and 4 April 1839, *ibid*.

JULY

2007

VOL. 48

Napier, however, remained concerned that “the model” for the three Atlantic steamers would not prove “fully fitted for the trade.” Cunard again resisted, ostensibly because the Admiralty and Treasury seemed well satisfied, and complained to Melvill that his builder “was always proposing larger boats.” Melvill, however, expressed his conviction “that to ensure success the adoption of Napier’s views was imperative, as he was the great authority on steam navigation, and knew much more about the subject than the Admiralty.”

Ruefully, Cunard admitted to Napier that their East India Company friend “takes a lively interest in your welfare.”⁷⁷ But he soon confessed to Melvill that his real problem was raising capital. Lacking experience with steamships, even his Glasgow agents seemed unwilling to invest.⁷⁸ On Melvill’s advice, Cunard traveled once again to Glasgow. Napier knew that the key to unlocking the capital of Glasgow’s wealthy merchants lay with Burns, MacIver, and himself, a trio whose combined hard-won experience and skill with steamships was unrivaled anywhere in Britain.⁷⁹ Confidence in the project thus had to precede the raising of capital and the launching of the first ship. But although Burns “entertained the proposal cordially,” David MacIver, who joined Cunard and Burns for dinner the same day, “went dead against the proposal,” his initial difficulties seeming to center on penalties the Admiralty would impose for voyage delays. Agreement to proceed thus depended on confidence in the ability of Napier’s marine engines and Wood’s hulls to meet the Admiralty’s schedule. Burns immediately undertook a campaign to persuade Glasgow investors and was undoubtedly gratified by the reaction of William Connal, head of a large firm of Glasgow produce merchants: “I know nothing whatever about steam navigation, but if *you* think well of it, I’ll join you.”⁸⁰

77. Samuel Cunard to Robert Napier, 2 April 1839, *ibid.* (on Melvill); and Napier, *Life of Robert Napier*, 137–38. It is probable that, with the *British Queen* undergoing trials around this time, Napier increasingly saw the advantages of greater size.

78. Even when offered the management agency in Glasgow, Kidston and Sons could not be persuaded to invest. In 1895, George Kidston (grandson of William Kidston and owner of the Clyde Shipping Company) told Robert’s biographer James Napier that Cunard had pressed the Kidstons “strongly to take the position afterwards taken by Burns”; they declined “as they had no experience in steamers—and recommended Burns—and so the connection was formed” (George Kidston to James Napier, 25 February 1895, A. C. Kirk Collection, Glasgow Museum of Transport).

79. Napier, *Life of Robert Napier*, 138–40; Hodder (n. 5 above), 196.

80. Following the breakfast negotiations, Burns informed Cunard that he and MacIver “could hardly take up such a large concern . . . without inviting a few friends to join us,” and that Cunard should feel free to “make any arrangements he thought best with his own friends.” But Cunard readily agreed to a month’s delay in order to know the outcome of Burns’s invitations. Connal subsequently invested £11,500 in the proposal. Apart from Cunard’s contribution, virtually all the capital came through the Glasgow connections. As Hyde shows, Burns and MacIver initially attracted support from some nineteen Glasgow merchants to form “the Glasgow Proprietary in the British and North



FIG. 5 The *Acadia* (1840), built by John Wood as the “pattern card” for the first four Cunarders and using Robert Napier’s 420-horsepower side-lever engines. (Source: James Napier, *Life of Robert Napier of West Shandon* [Edinburgh, 1904].)

Napier had long known that if confidence in the venture were to increase, the steamers needed “honest and competent men” not only in their design and construction, but also in their management. “I told [Glasgow banker] Mr Rodger,” he explained to Cunard in early April 1839, “if he could get any of these two Companies [Burns or MacIver] to take it up, the vessels would be well and honestly managed, and save much trouble to all concerned and make money.” Once these arrangements had been agreed upon, by mid-April 1839, Cunard told Napier that he had “left with Mr Burns & Mr McIver [*sic*] to do as they and you may think right as to enlarging the boats.”⁸¹

Under the new company, the size of the three vessels was increased to around 1,120 tons and over 400 horsepower. With Wood’s *Acadia* (fig. 5) as

American Royal Mail Steam Packets, established for the purpose of carrying mails, passengers, specie and merchandise between Britain and certain North American ports.” To these twenty-one original proprietors (including Donaldson’s £16,000, the Burns’es’ £10,600, Napier’s £6,000, and the MacIvers’ £8,000) were added Cunard’s own contribution (£55,000) and seven further Glasgow and four Manchester subscribers. The total capital raised amounted to £270,000—modest when set against Junius Smith’s project. See Hyde (n. 7 above), 9–15, esp. 11–13; Hodder, 196–97; Napier, *Life of Robert Napier*, 140–43.

81. Robert Napier to Samuel Cunard, 2 April 1839 (transcript); Cunard to Napier, 4 April 1839; Napier to Cunard, 8 April 1839; Cunard to Napier, 30 April 1839, Napier Collection, Glasgow Museum of Transport.

JULY

2007

VOL. 48

the “pattern card,” the other hulls were subcontracted to small, family-owned Greenock and Port Glasgow shipbuilders known for the quality of their shipwrights. Strength was everywhere apparent in the hulls with massive frames, planks, and fastenings.⁸² At Glasgow’s Broomielaw facility, David Elder engineered the construction and installation of the side-lever engines. Even the funnel colors, orange-red with black top, bore the Napier stamp, familiar from those coastal steamer companies in which he had an interest. Burns took the Glasgow agency, MacIver the Liverpool agency, and Cunard himself established the Halifax and Boston branches of the company from his center in London. Such was the growth in confidence, the original order was increased to four ships. On U.S. Independence Day, 4 July 1840, the first steamer, *Britannia*, departed from Liverpool.⁸³

By early January 1841, *Columbia*, the last of the Cunard quartet, left Liverpool on its maiden voyage and thus finally implemented the promise of regular, year-round mail service by steam vessel to North America. Sailings were monthly from November through February, but fortnightly from March through October when the Cunard ships left Liverpool on the 4th and 19th of each month. Consistent with Burns’s views on Sabbath observance, departures that fell on Sundays were postponed by one day.⁸⁴

Conclusion

An eloquent, early testimony to the company’s success in securing public confidence in the high-risk venture is provided by the diary of Rev. Norman MacLeod, friend of the Burnses and Napiers and heir to Rev. Burns as minister of the Barony, written aboard the *Acadia* in 1845: “You know my love of steam engines,” he confided, “and certainly it has not been lessened by what I have seen in the *Acadia*.” Everything within the ship inspired confidence:

82. Napier told Burns and MacIver that “she is filled up solid in the bows between the timbers with strong beams & knees & water tight bulkhead to prevent accidents should the vessel strike ice . . . the whole when completed will make the vessels without doubt by far the strongest and best steamers ever fitted out for any station.” Robert Napier to George Burns and David MacIver, 12 February 1840; Robert Napier to John Wood, 27 March 1839 (transcript, including Wood’s reply), A. C. Kirk Collection, Glasgow Museum of Transport. See also Napier, *Life of Robert Napier*, 143–44; Fox (n. 10 above), xiii–xiv, 93–94 (details of the *Britannia*); and “Specifications of Steamer Britannia,” Napier Collection, Glasgow Museum of Transport.

83. Napier, *Life of Robert Napier*, 143 (funnel colors); Hodder, 202–5; Fox, xiv–xvii (*Britannia*’s first arrival in Boston), xiv, 93 (lack of ornament in the Cunard steamers).

84. Bonsor (n. 7 above), 1:74. Hodder, 200–1 (quoting W. S. Lindsay), explained that the owners and builders had worked to establish “the high character of the firm.” Thus “from the first . . . they sacrificed everything to safety. Precious human lives were entrusted to their keeping, and, whatever else had to give way, they were inflexible on this point.”

What a wonderful sight it is in a dark and stormy night to gaze down and see those great furnaces roaring and raging, and a band of black[ened] firemen laughing and joking opposite their [furnaces'] red-hot throats! And then to see that majestic engine with its great shafts and polished rods moving so regularly night and day, and driving on this huge mass with irresistible force against the waves and storms of the Atlantic!

Not for MacLeod, then, simple messages of material or human progress, but a striking use of this testimony relating the skill of the engine builder to the skill of the maker of man: “If the work glorifies the intellect of the human workman, what a work is man himself!”⁸⁵

MacLeod’s remarks convey the moderate evangelical Presbyterianism—distanced from Calvinism, shaped and led in the early years of the nineteenth century by Thomas Chalmers, and embraced by the three founding partners of the Cunard line. The wisdom of experience taught human beings to engage with—never defy—the authority of divinely ordained laws. Only when they worked within that framework of laws both natural and moral could human beings share in their creator’s skills for wise design. In this profoundly moral universe, nothing was attributed to chance. Success indicated good work and skillful exertion; failure indicated lack of conformity to the divine laws. But success remained contingent upon divine choice, an ultimate trust that all things worked together for good that differentiated the believer’s humility before an omnipotent God from the hubris of the infidel.⁸⁶ And it was this very humility that generated confidence in Cunard’s steamers. Victorian traveling publics would thus know—most conspicuously through that most visible signal, the avoidance of Sunday departures—that here was a line that would not, under any circumstances, material or moral, “tempt Providence.”

In the end, that confidence, painstakingly developed for the first Cunard steamers, rested on the triple foundations of the skills and experience of the engine makers, the hull builders, and the shipowners. “The machinery of these vessels,” wrote James Robert Napier in the 1860s as a tribute to Elder, “produced the regularity and gave that feeling of confidence which

85. Donald MacLeod, *Memoir of Norman MacLeod, D.D.*, 2 vols. (London, 1878), 1:238. See Marsden and Smith (n. 73 above), 249.

86. Together with other trials, the loss of Dr. John Burns in the *Orion* disaster of 1850 (when Burns’s Liverpool-to-Glasgow steamer struck a rock close to Portpatrick) seems to have persuaded George Burns that God had “made a way of escape” for him from temporal affairs. He withdrew from the Cunard Company by 1860. His son John (later Lord Inverclyde) took charge of the newly constituted and now-public Cunard Steamship Company in around 1880; see Hodder (n. 5 above), 276–84, and Fox, 277–79. The disaster is the focus of Anne Scott, “The Wreck of the *Orion*: Reading Steamship Wrecks in Nineteenth-Century Britain,” paper presented at the British Society for the History of Science Conference, Canterbury, July 2006.

was so marked a feature in its success.” As John Scott Russell told the Institution of Naval Architects, Napier, Burns, MacIver, and Wood “are the men to whom this nation owes the great pride of possessing the Cunard line of steamers—a line of steamers which has often attempted to be rivalled, but which I think may be said to possess the confidence of the profession and of the world at large more than any other line.”⁸⁷

JULY

2007

VOL. 48

87. Napier, “Memoir” (n. 45 above), 105 (on Elder’s skills); Russell (n. 15 above), 145–46 (on Cunard steamers).