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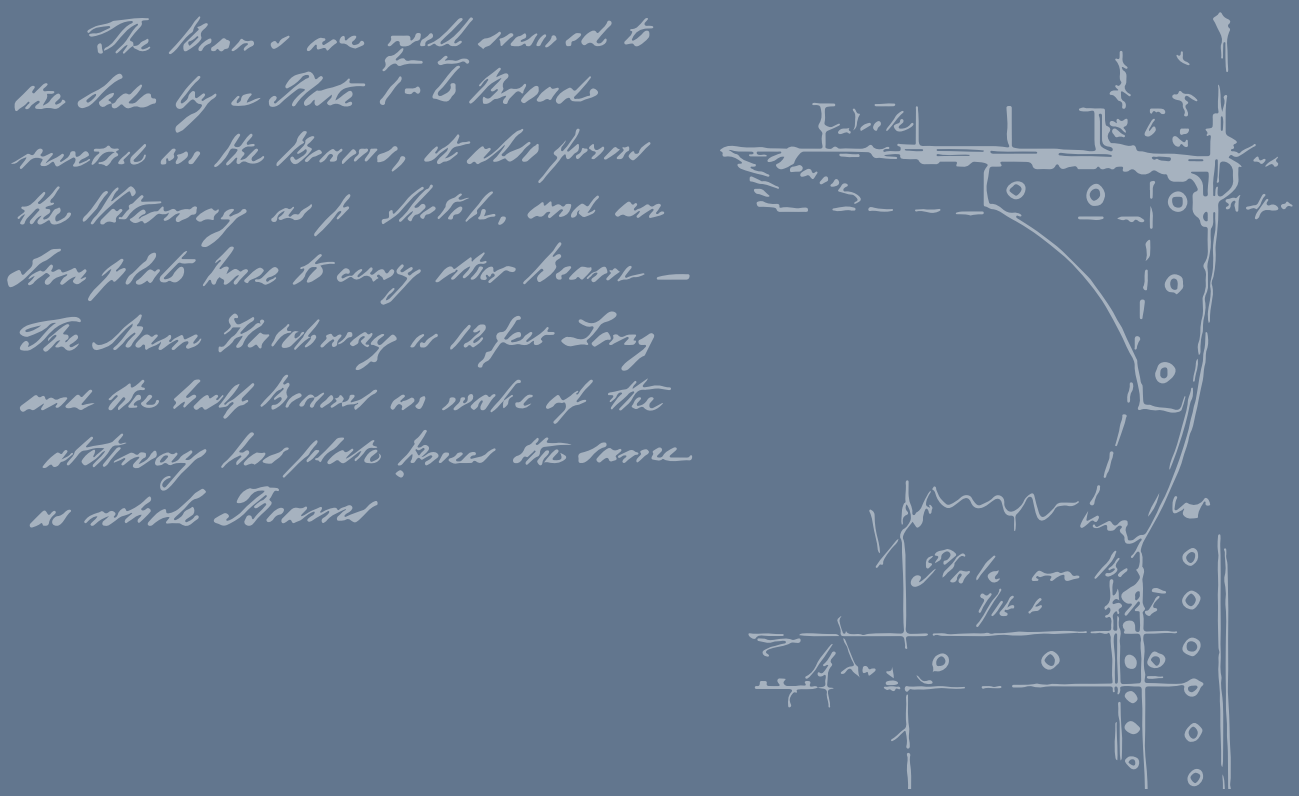
KING'S College LONDON

Local knowledge, global change: a study of Lloyd's Register surveyors 1834 - 1860

Dr Elin Jones (University of Exeter)



Hindsight Perspectives for a Safer World
Report Series: No.2023.1

About the Hindsight Perspectives reports series

Hindsight Perspectives for a Safer World is a collaboration between History & Policy at King's College London and Lloyd's Register Foundation. We work with professional historians researching maritime topics to provide historical context and insight to contemporary maritime safety challenges. The goal of the project is to deepen understanding of these issues and provoke creative solutions in an era of huge technological and organisational change for the industry. Working with the materials in Lloyd's Register Foundation Heritage and Education Centre (HEC) as well as wider sources, historians produce *Hindsight Reports* within the scope of the challenges of the Lloyd's Register Foundation.

About the author

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Elin Jones is a social historian of maritime space, focusing primarily on British vessels, coasts and waterways during the eighteenth and nineteenth centuries. Her doctoral research examined naval shipboard society between the 1750s and 1810s, exploring the ways in which built and natural environments shaped the lives of those who went to sea. Elin's new project focuses on riverine communities during the nineteenth century, seeking to understand what men and women engaged in diverse forms of maritime work knew about ecological change, and how this knowledge was produced and communicated. Elin's work has appeared in the *Journal for Maritime Research*, the *Journal of Historical Geography* and the *British Journal for the History of Science*, and she is currently finishing a monograph based on her doctoral work, provisionally titled *Shipboard Society: British Masculinity at Sea, 1750 - 1815*.

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Published March 2023

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Executive summary

- This report focuses on the history of Lloyd's Register surveyors between 1834 (when the society reconstituted itself and set out on a recruitment drive) and 1860. These decades were an era of enormous technological change which saw the development of steam-powered paddle ships, screw-steamers and iron-clad vessels.

- Maritime innovation tends to be overlooked in the popular historical imagining of Britain's industrial revolution, yet it forms an inspiring and informative period for professionals working in the industry today as they grapple with decarbonisation and other technical revolutions.

- The speed with which steam power was applied to a range of maritime challenges in the late eighteenth and early nineteenth century was remarkable, yet it is also important to understand that steam did not entirely replace sail in these decades. Rather the period should be seen in terms of a century of change, which happened far more quickly in some places than others.

- The transformation spawned new forms of work on board ship and onshore, and concerns emerged about the seaworthiness and safety of the new technologies. This was a key period in the professionalisation of all maritime roles.

- The concept of the 'objective surveyor' was in its infancy at the start of this period, and had taken form by the end of it, as a result of both safety considerations in the new era and the wider bureaucratic problem of 'governing at a distance'.

- The transformation also came with dangers: maritime disasters involving multiple casualties were widely reported and discussed by the public, causing Lloyd's Register to focus all the more on mitigating risk and ensuring its classification system was accurate and standardised.

- Lloyd's Register surveyors grappled with these changes as professionals while also negotiating with the concerns of the central organisation itself. Lloyd's Register, focused on reputation-building and global standardisation, was increasingly concerned with whether their locally embedded agents could be relied on as impartial in this shifting technological and social landscape. As innovation moved further from London, so the Lloyd's Register General Committee scrutiny of surveyors increased.

- There are important lessons for today in this response to change in the first half of the nineteenth century. Corporations and state actors alike must deal with local experts on the ground around the world, who will be on the front line of the technological shift that will underpin the transition to Net Zero. The workings of corporate, organisational and political life have changed profoundly since the period covered by this report, not least in terms of communications. But decarbonisation is the biggest shift the industry will undergo since the sail-to-steam transition, and it may test organisations and relationships along similar fault lines. Organisations must develop ways of working which are inclusive of regional specificity and knowledge.

Introduction

This report explores the social history of Lloyd's Register surveyors during a period of immense technological change. Focusing on the period 1834 – 1860, I chart the conception of the surveyor as an 'agent of standardisation' when steam-powered paddle ships, screw-steamers and iron-clad vessels were being developed apace in Britain's shipyards, and when the concept of the 'objective surveyor' was in its infancy. Taken as a whole, the report forms an examination of relationships between corporate governance, safety and local realities during a period of maritime industrialisation.

This is a story as yet untold in histories of the Industrial Revolution. Historians have often focused on railways and factories to pinpoint the moment at which Britain became an 'industrial nation', meaning the story of Britain's maritime industrialisation has remained comparatively obscure in public historical imagining. From the 1760s onwards however, just as James Watt's engine was being installed on land, those living along the coasts and waterways of Britain were also tinkering, creating and engineering new industrial technologies. These were men such as David Elder, who spent his life working on the Clyde for the shipbuilder Robert Napier, designing engines and boilers which would support transoceanic steam navigation, something which was a mere dream when he began his work in the middle of the 1830s, but had become a reality a decade later[1].

The rapidity with which steam power was accepted and applied to a range of maritime shipping applications across the first half of the nineteenth century was remarkable. The first working steamship had been trialled in Britain in 1783, and in 1812 the first commercial paddle steamer *Comet* was commissioned, running from Glasgow to the hotel of the ship's investor Henry Bell in Helensburgh. It was after the close of the Napoleonic Wars however, in 1815, that the wider adoption of paddlewheels and later the 'steam screw' as means of propelling ships down rivers and across oceans saw a greater variety of vessels take on a range of functions.

The *James Watt*, built at Greenock in 1821, and the first steamship to appear in the *Lloyd's Register of Ships* in 1822. Image by David Knight, appearing in George Blake, *Lloyd's Register of Shipping, 1760 to 1960* (Lloyd's Register, 1960). *Courtesy of the Lloyd's Register Foundation Heritage and Education Centre.*

1 Crosbie Smith, *Coal, Steam and Ships: Engineering, Enterprise and Empire on the Nineteenth-Century Seas* (Cambridge: 2018), pp.5-6.

In 1835, the company which would become the Peninsular & Oriental Steam Navigation Company (P&O) launched its first steam passenger service between London, Spain and Portugal; in 1838 Isambard Kingdom Brunel's *SS Great Western* became the first paddle steamer to cross the Atlantic Ocean dependent on coal power alone, and in 1840 the first Cunard mail steamer set sail. In the early 1830s many naval officers were reportedly still 'in ignorance of the names and nature of the power which is to move them' and had 'ridiculed' the notion of steam power, but twenty years later in 1852, the British fleet had transformed into an 'all-steam navy' and the Crimean War of 1854 to 1856 would emerge as the first military engagement in which 'steam-powered battle fleets dominated the seas'[2]. From the end of the Napoleonic Wars to the beginning of the Crimean War, a form of maritime technology which had remained relatively static for hundreds of years, the wooden sailing ship, was beginning to be superseded by steam.

It is important however to understand that steam did not entirely replace sail in these decades, and that there is a geographically differentiated picture in terms of technological change. The oncoming of steam power and building in steel and iron did not happen in a moment, but was rather the work of a century of change, which happened far more quickly in some places than others. The southeast of England continued to produce wooden sailing vessels throughout the nineteenth century and major shipbuilding centres such as London and Southampton represented a mixed economy of steel, sail and iron[3]. The adoption of steam power in the northeast meanwhile occurred earlier and the 'use of metal as the primary construction material and steam as the principal propulsion' was adopted by the middle of the century[4]. Before the 1870s however sail was still a dominant mode of maritime travel, and shipbuilding communities such as Sunderland expanded rapidly through a focus on wooden sailing vessels, both clippers for trade with Asia and larger wooden cargo vessels.

Although change was far from instantaneous, the transformations taking place in shipbuilding and maritime industrial technologies spawned new forms of work: stokers and engineers boarded ships for the first time in the 1820s, and shipyards increasingly required new types of marine engineers and fitters to equip the growing number of steam vessels. As with all periods of technological transformation, there emerged a corresponding concern over the trustworthiness, and in this case seaworthiness, of the new 'machines' being produced. A veritable 'swarm of projectors' rushed to launch new lines or steam services, and to progress steam technologies, occasionally with catastrophic results, as this report goes on to describe (see page 12). As this report also elucidates, questions about trust also plagued Lloyd's Register in this period, namely whether their employees on the ground could be relied upon to act as impartial agents in a shifting technological and social landscape.

2 R.S. Robinson, *The Nautical Steam Engine Explained* (London: 1839), pp. 173 – 179; Andrew Lambert 'The Administrative, Political and International Background' in David Lyon and Rif Winfield, *The Sail & Steam Navy List: All the Ships of the Royal Navy 1815 – 1889* (London: 2004), p.20.

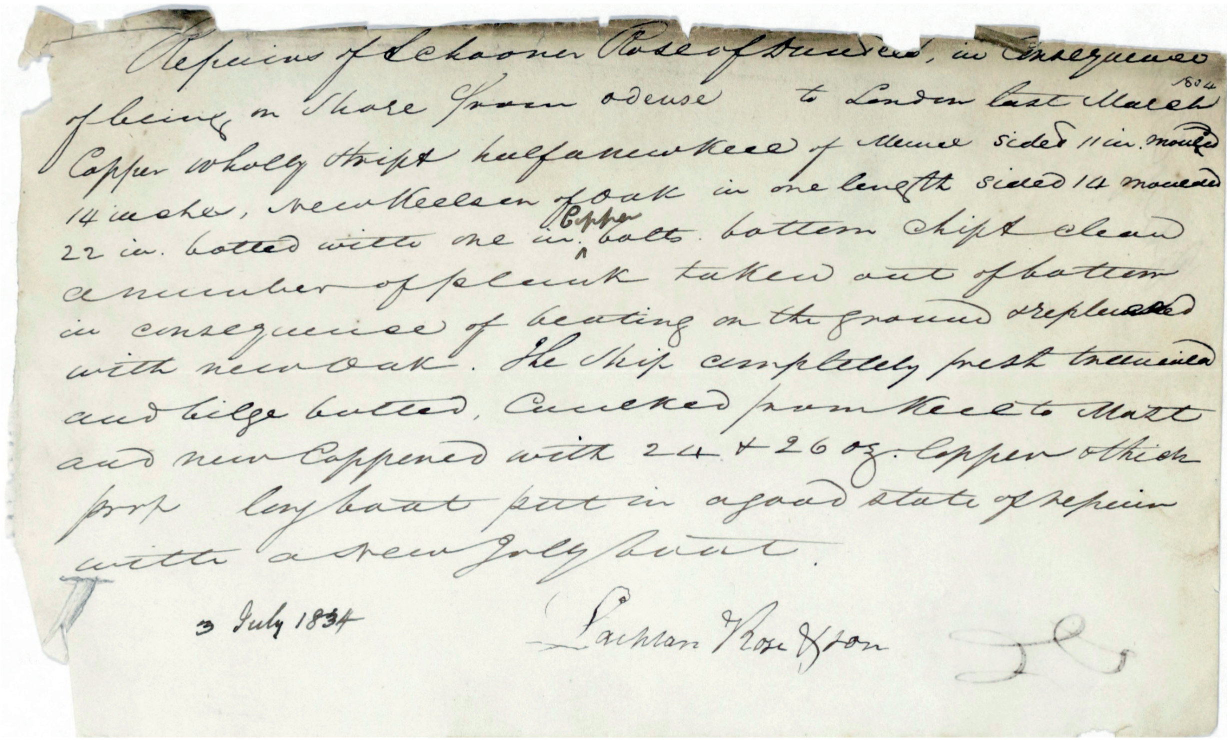
3 Sarah Palmer, 'Shipbuilding in Southeast England, 1800-1913' in in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach* (Liverpool: 1993), pp. 45 – 74

4 Simon Ville, 'Shipbuilding in the Northeast of England in the Nineteenth Century' in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach* (Liverpool: 1993), p.10.

Lloyd's Register surveyors: standardising the maritime world

As shipbuilding grew and changed, and as new types of risk emerged, another form of maritime work was also becoming essential. Although Lloyd's Register of Shipping had begun its life in the coffee houses of London, by the first decades of the nineteenth century its surveyors were sent across Britain, and ultimately across the world, as envoys of shipping standardisation and safety. They were tasked with recording and assessing the minutiae of shipboard technologies, just as these technologies were changing, and were required to negotiate many of the implications of industrialisation on the ground in ports, docks and shipyards as vessels were increasingly powered by steam, and wrought of steel and iron. Lloyd's Register surveyors of the 1830s – 1860s had to negotiate a transforming technological world while simultaneously managing their relationships with ship owners, shipbuilders and the Lloyd's Register Committee itself. This required at times a deft handling of local and organisational interests, as well as evolving working knowledge of new maritime industrial technologies.

Surveyors were then required to translate this wealth of skilled understanding into a formalised classification system and attendant supporting documentation which would be returned to the central office in London. By the early nineteenth century, the 'form' was nothing particularly new, but the skill of interpreting the ship in its entirety, and codifying that knowledge as a single letter and number was at the forefront of emerging nineteenth-century bureaucratic practice.


Repairs of Schooner Rose of Dundee, in consequence
of being on Shore from Odense to London last March 1834
Copper wholly stript half a new Keel of Elm sided 11 in. moulded
14 inches, new Keelson of oak in one length sided 14 moulded
22 in. bolted with one in. copper bolts. bottom stript clean
a number of plank taken out of bottom
in consequence of beating on the ground & replaced
with new Oak. The Ship completely fresh treenailed
and bilge bolted, Caulked from Keel to Mast
and new Coppered with 24 + 26 oz. Copper & thick
prop Long boat put in a good state of repair
with a new Jolly boat.

3 July 1834 Lachlan Rose & Son

Letter from a Lloyd's Register surveyor reporting on the condition of the *Rose of Dundee*. Dated 3 July 1834, it sits on the cusp of Lloyd's Register's reorganisation and the changeover from reporting by letter to reporting by form.
Image courtesy of the Lloyd's Register Foundation Heritage and Education Centre.

In all, Lloyd's Register surveyors witnessed and meticulously documented some of the most important developments of the Industrial Revolution. The role of these men became increasingly important in the British maritime world as ship owners and builders came to rely on their expertise. The Lloyd's Register surveyor occupied a place at the heart of maritime industrialisation: by the 1830s steam passenger ships could not take on passengers without their certification, whilst on the first voyage of the experimental craft *Liverpool*, a Lloyd's Register surveyor sat alongside 'many scientific men'. By the 1860s and 1870s surveyors were resident in major ports globally, in New York, Quebec, Shanghai and Hong Kong.

...Lloyd's Register surveyors witnessed and meticulously documented some of the most important developments of the Industrial Revolution

This study takes 1834 as its starting point and examines the working realities of Lloyd's Register surveyors in the ports and shipbuilding communities they inhabited. Following a messy and inauspicious divergence between two branches of the organisation in the early nineteenth century, by the middle of the 1830s 'Lloyd's Register of British and Foreign Shipping' had become unified under a banner of standardisation and objectivity, under the aegis of a new managing General Committee. In an effort to build its reputation and establish expertise, the Committee set out to recruit new surveyors who would be suitable representatives of the values of Lloyd's Register. The first generation of these men, recruited in the 1830s, were paid between £150 and £200, with the first ever Principal Surveyor paid £500 per year[5].

It is not a coincidence that the salary of the first surveyors was roughly commensurate with that of a junior East India Company (EIC) clerk in the period[6], another sprawling organisation which had long dealt with claims of corruption and privilege, and wrestled with the central quandary of all colonial bureaucracies: 'the question of how one is to govern *at a distance*'[7]. Like the East India Company, Lloyd's Register relied heavily on a legion of specialised bureaucrats to gather and standardise information, and also needed to ensure their fealty to the organisation they represented 'on the ground'. Indeed, the Committee, based in White Lion Court off Cornhill by the end of the 1830s, assembled a mere four-minute walk from East India Company House, and their role of oversight and direction from afar became more and more similar to that of the EIC's 'Court' of directors as the nineteenth century wore on.

Lloyd's Register employees may have been the agents of standardisation and bureaucratisation, but they were also living parts of the port communities which they had to assess. This form of work required them to be at once distant and deeply involved, and an examination of surveyors provides a reminder for historians and policy makers alike of the importance of understanding the value and role of locality in shaping global technological change.

5 Nigel Watson, *Lloyd's Register: 250 years of service* (London: 2010), pp. 23 – 24.

6 H.M.Boot, 'Real Incomes of the British Middle Class, 1760-1850: The Experience of Clerks at the East India Company' *The Economic History Review*, Vol.52, No.1 (1999), p. 643.

7 Thomas Osborne, 'Bureaucracy as a Vocation: Governmentality and administration in nineteenth-century Britain', *Journal of Historical Sociology*, Vol. 7, No. 3 (1994), pp. 289 – 313.

GENERAL REMARKS.

Statement and date of repairs; extent of corrosion (if any) both internally and externally; and condition of rivets.

The Beams are well secured to the Side by a Plate 1 - 6 Broad riveted on the Beams, it also forms the Waterway, as p^r Sketch, and an Iron plate knee to every other Beam — The Main Hatchway is 12 feet Long and the half Beams in wake of the Hatchway has plate knees the same as whole Beams

Deck
Beam
Plate on Beams
Beam

In what manner are the surfaces preserved from oxidation? Red lead paint

I am of opinion this Vessel should be Classed A1

The Amount of the Fee.....£ 1 : 0 : 0 is received by me,

Special .....£ : :

Certificate (if required) .....£ : 5 : 0

John Gibson

Committee's Minute 26th Oct^r 1847

Character assigned A 1

Part of the Iron Ship Report for the *Alar* (formerly the *Talbot*), surveyed at Neath on 6 October 1847. The surveyor has made use of an area of the form to make a sketch of the construction. This practice of illustrating a concept too difficult to explain in words is also seen in sailing ship surveys but does become more prevalent in the Iron Ship series. It is easy to see how it would have supported monitoring innovations and local developments from the centre as the new technologies were developed. ***Downloaded from the Heritage and Education Centre online catalogue [Ref: LRF-PUN-IRON430A-0028-R.]***

The role of Lloyd's Register surveyors was often as mediators between technological innovation on the ground and the initially 'sluggish' response of the central organisation to new developments in steam propulsion, iron and steel construction[8]. Histories of the Register have pointed out that during this period efforts were made to give 'space to experiment' rather than classifying too early, and to 'keep a close eye on new developments'[9]. However it was largely the eyes of surveyors and agents who adjudged mechanical and engineering innovations, providing reports for the central Committee in London and giving detailed comment on the suitability of various technologies for maritime travel. Everything Lloyd's Register knew of progress in the provinces was refracted through its surveyors, and in their observations on the ground they became arbiters of industrialisation.

The remaining sections will chart the involvement of Lloyd's Register surveyors in their localities, the efforts of the General Committee to control and stymie these connections with community amid ongoing technological change, before reflecting on the importance of the local in narratives of global technology shifts. This report explores the first and second generation of surveyors from 1834, and the study ends around 1860, by which time the emergence of steel as a shipbuilding material and the second Industrial Revolution were beginning to have different implications for safety and risk at sea.

8 Global History of Capitalism Project, 'The "A1" Reputation of the Lloyd's Register of Shipping' (Oxford: 2019), p.5.

9 Ibid, p.6.

Surveyors and maritime communities

The first advertisements placed for Lloyd's Register surveyors in 1834 expressed plainly that they were looking for those 'possessing the highest attainment of their profession' and ship captains 'well informed in the construction and quality of shipping'[10]. These men were, unsurprisingly, often found living in maritime communities already, in ports and alongside dockyards where they might have a financial and professional interest in shipping matters. The location of early surveyors in existing maritime communities is borne out in an examination of Lloyd's Register employment records, known as the 'staff bibles', which are held in the organisation's archives.

The vast majority of the first generation of surveyors employed in the 1830s stayed in the port they were first employed in for the entirety of their surveying career and thus naturally became part of the community there. Furthermore, there is evidence to suggest that Lloyd's Register often employed men who were already resident in the ports they were instructed to survey: they were local men.

...Lloyd's Register often employed men who were already resident in the ports ... they were local men

The *Newcastle Journal* reported on 19 April 1834 that Matthew Poppelwell 'of North Shields' had been appointed as 'surveyor for Lloyd's for the port of Newcastle'[11]. 'Messrs Brunton and Denton' meanwhile, were employed in the same year for the port of Sunderland. John Brunton was a local shipbuilder based in Sunderland, who had almost been bankrupted in 1833 whilst building a vessel for a Liverpool merchant[12]. It was perhaps unsurprising then that he was looking for more steady employment. J.P.Denton meanwhile lived in Sunderland for at least fifteen years prior to his appointment as surveyor, investing in ships and acting as a 'commission-merchant' based at 'Sunderland near the sea' until this business was dissolved in 1827[13]. John Oakshott, surveyor for Lloyd's Register at Portsmouth in 1839, meanwhile continued to run his former business as a coal merchant alongside his new duties, and the surveyor for Newport in 1844 was also the 'late foreman of Mr Perkins's shipbuilding establishment' which he continued to live nearby, and also remained 'in business for himself'[14]. Unlike Brunton and Denton, Oakshott was at this stage a non-exclusive surveyor for Lloyd's Register and was allowed to conduct his own business alongside his work for the organisation, provided this had the written consent of the General Committee. Oakshott thus was able to retain his existing professional and social networks, although these non-exclusive arrangements would not last for long, as Lloyd's Register appointed more and more exclusive surveyors and phased out the use of non-exclusive employees[15].

10 Ibid, p.5.

11 'Marine Intelligence' *Newcastle Journal* (Newcastle-upon-Tyne), 19 April 1834, p.3.

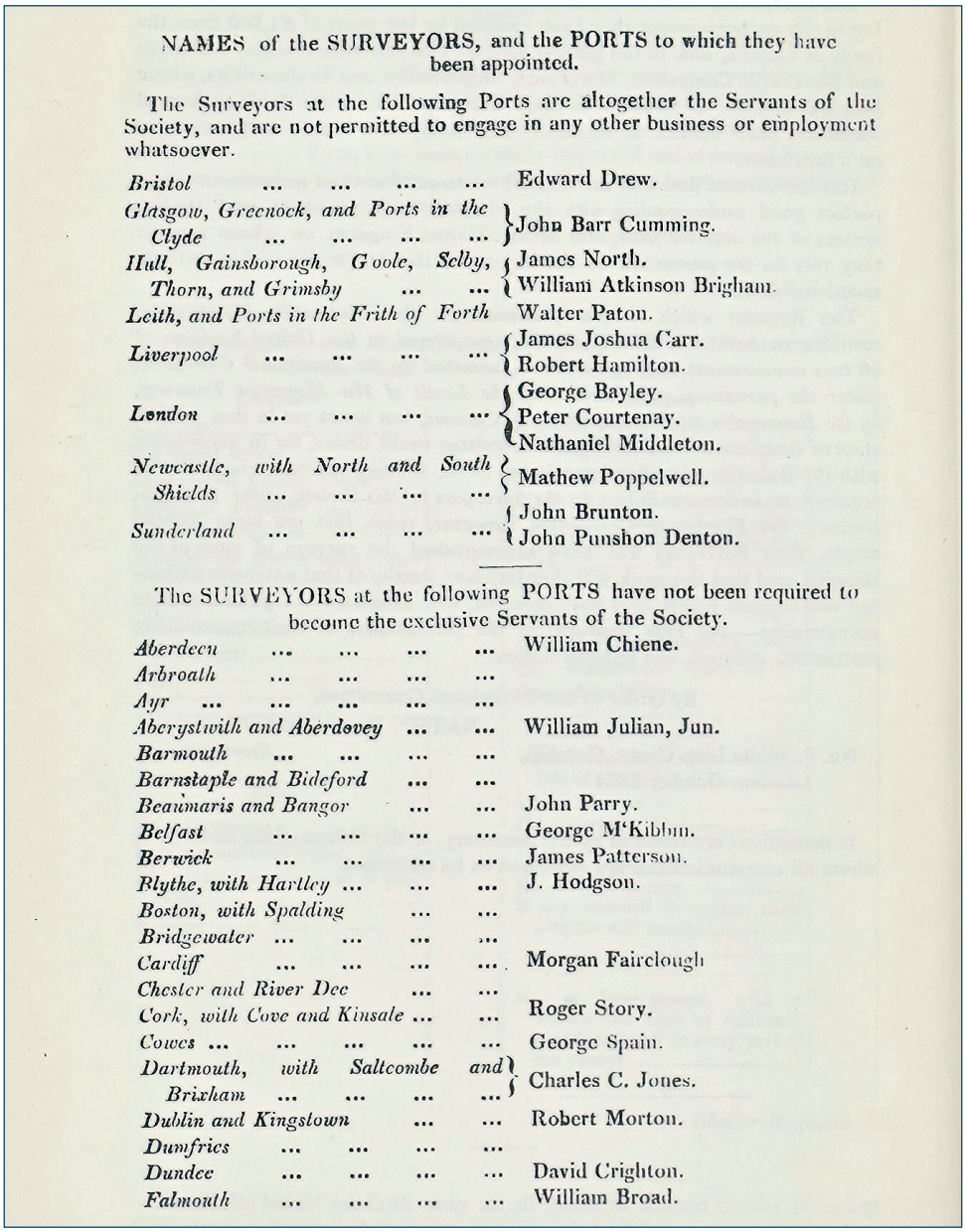
12 'Court of King's Bench' *Morning Post* (London), 17 April 1833, p.4.

13 'Marine Intelligence' *Newcastle Courant* (Newcastle-upon-Tyne), 3 April 1824, p.4 and 'Partnerships Dissolved' *Morning Post*, 3 February 1827, p.2.

14 1839 Robson's Directory of the Western Counties (Member LE Compendium), p.62.

15 Nigel Watson, *Lloyd's Register: 250 Years of Service* (London: 2010), p. 25.

Poppelwell, Denton, Brunton and Oakshott all stayed embedded in their home ports for the entire duration of their time as Lloyd's Register surveyors, whether they were exclusive or non-exclusive. This seems to represent a trend in terms of the employment of the first generation of surveyors, as the Lloyd's Register employment records show that the majority of those taken on as part of the first cohort remained static throughout their careers. These include Edward Drew, the first surveyor for Bristol; S.S.Hodgson, another Sunderland surveyor recruited in 1839; J.B. Cumming, surveyor for the Clyde from 1834; Frederick Preston,



NAMES of the SURVEYORS, and the PORTS to which they have been appointed.

The Surveyors at the following Ports are altogether the Servants of the Society, and are not permitted to engage in any other business or employment whatsoever.

Bristol	Edward Drew.
Glasgow, Greenock, and Ports in the Clyde	John Barr Cumming.
Hull, Gainsborough, Goole, Selby, Thorn, and Grimsby	James North. William Atkinson Brigham.
Leith, and Ports in the Frith of Forth	Walter Paton.
Liverpool	James Joshua Carr. Robert Hamilton.
London	George Bayley. Peter Courtenay. Nathaniel Middleton.
Newcastle, with North and South Shields	Mathew Poppelwell.
Sunderland	John Brunton. John Punshon Denton.

The SURVEYORS at the following PORTS have not been required to become the exclusive Servants of the Society.

Aberdeen	William Chiene.
Arbroath	
Ayr	
Aberystwith and Aberdovey	William Julian, Jun.
Barmouth	
Barnstaple and Bideford	
Beaumaris and Bangor	John Parry.
Belfast	George M'Kibbin.
Berwick	James Patterson.
Blythe, with Hartley	J. Hodgson.
Boston, with Spalding	
Bridgewater	
Cardiff	Morgan Fairclough
Chester and River Dee	
Cork, with Cove and Kinsale	Roger Story.
Cowes	George Spain.
Dartmouth, with Saltcombe and Brixham	Charles C. Jones.
Dublin and Kingstown	Robert Morton.
Dumfries	
Dundee	David Crighton.
Falmouth	William Broad.

First page of the list of surveyors from the 1834 edition of *Lloyd's Register of Ships*. *Image courtesy of the Lloyd's Register Foundation Heritage and Education Centre.*

surveyor for Hull from 1844; James Bower, surveyor for Glasgow; Jabez Bayley, recruited in 1836 as surveyor for Liverpool, and George Bayley, Thomas Clack, Henry Turner and Nathaniel Clark, all of whom were made surveyors of the port of London between 1835 and 1840, and stayed there for the duration of their employment with Lloyd's Register[16].

The benefit of employing men who already knew the lie of the land, and had working relationships with shipbuilders and owners, would have been evident to the newly formed Committee. These were men who had made at least part of their living out of assessing the seaworthiness of ships before 1834, and could appeal to individuals they knew to present their vessels for classification. Lloyd's Register surveyors were thus at once 'company men' and members of local business communities, with contacts from previous forays into ship owning, building, commissioning and prospecting, although perhaps with mixed levels of success, as we can see from the cases of John Brunton and J.P. Denton. Individuals were chosen then who were from, and who often remained in, the places they knew and amongst people who they sometimes felt they represented. In 1851, Matthew Poppelwell, then a well-established Newcastle surveyor, led a public meeting of ship owners in the North Shields Town Hall on Saville Street and spoke on behalf of the 'Ship-owners Society' which called for greater protections on trade and a review of the Navigation Acts. Poppelwell argued that he spoke on behalf of 'small communities, speaking the same language and living within a few miles of each other' which were being injured by the preference given to foreign over British vessels in tariffs[17].

Surveyors were disallowed shares in shipping for obvious reasons of impartiality, but there is evidence that individuals did not always toe the line in this regard during the early years of recruitment. The will of William Cuming, 'late master mariner but now Lloyd's surveyor' at Plymouth left his 'shares of vessels' as well as his worldly property to his wife Hannah in 1840[18]. The opportunities for some form of collusion must have been unavoidable in close-knit port communities such as that described by Matthew Poppelwell as he stood amongst his friends and associates in North Shields Town Hall. Indeed, Lloyd's Register surveyors were part of social and associational life as much as they were the daily operation of maritime business in coastal communities. Surveyors later in the century appear in Freemasons Society membership lists for Hull, Falmouth and Sunderland, frequently alongside ship owners, suggesting that relationships tracked across public and private arenas of sociability[19].

Surveyors lived, worked, walked, drank, ate and socialised in the same spaces as those they were tasked with surveying, and inevitably formed close social as well as working relationships. Walter Paton, the surveyor for Leith and surrounding areas, often found himself petitioning the Committee on behalf of ship

16 *Bristol Mercury,* 18 May 1844, p.8.

17 'The Shipping Interest – Public Meeting at North Shields' *Newcastle Journal* (Newcastle-upon-Tyne) 10 May 1851, p.5.

18 The National Archives (TNA hereafter), Will of William Cuming, PROB 11/1979/42

19 Library and Museum of Freemasonry Freemasonry, Membership Registers; Register of Contributions: Records for James Tilly (Lloyd's Surveyor, Falmouth, 1873); Elijah Fullerton (Lloyd's Surveyor, Hull, 1883); Christopher Besant (Lloyd's Surveyor, Sunderland, 1880).

owners who were in emotional distress following a poor classification[20]. Just how close these bonds could become is evidenced in the attempts by the ship owners of Dundee to defend the local surveyor from losing his employment with Lloyd's Register, who came together in the winter of 1855 to decide their course of action. The Lloyd's Register General Committee had decided shortly before that David Crighton, who had been the non-exclusive surveyor at Dundee for twenty-one years and resident at Dundee for much longer, was no longer fit for his post and that they would be employing someone in his place who had the skills of a modern shipwright. The assembly of more than fifty local ship owners resolved that they were the best judges of Crighton's suitability for the role, agreeing that as ever he was 'doing what was his duty to the Society, and acting fairly towards others'. Bailie Birnie, a ship owner who had travelled the 30 miles from Montrose to attend the meeting, rose to state that he 'believed there was not a man in Scotland who dealt more conscientiously or fairly towards all parties than Mr. Crighton' and lambasted the Lloyd's Register Committee for 'uncourteously and ungraciously' dismissing him to a chorus of 'hear, hear' from the throng before him. The local ship owners subsequently assembled a 'deputation' to be sent to London to represent Crighton's interests and to argue directly with the Committee for his continued employment amongst them[21].

Working with the archives of a bureaucratic behemoth such as Lloyd's Register, it can be all too easy to adopt a 'corporation-eye view' of the life and labour of employees. There is a wealth of detailed information on the men who became surveyors in the organisational archives, but this detail naturally defines them in their totality as extensions of Lloyd's Register rather than as individuals whose daily work was carried out in the specific social context of the communities they inhabited. As the ship owners of Dundee suggested in 1855, Lloyd's Register surveyors had to undertake a technically demanding profession whilst also acting as mediators between local interests and professional standards of objectivity, all while living in close quarters with those they were meant to adjudge. The work of surveyors therefore needs to be understood as produced in local contexts, rather than seeing them as nodes in a network of increasingly formalised bureaucratic processes. This section has demonstrated that through analysing organisational archives in conjunction with a wider source base, we can begin to piece together the social histories of the early Lloyd's Register surveyor.

The work of surveyors ... needs to be understood as produced in local contexts, rather than seeing them as nodes in a network of increasingly formalised bureaucratic processes

As the next section will elucidate, and as David Crighton's eventual termination suggests, the Committee realised by the end of the 1840s the inherent tension between the local belonging of surveyors in port communities and their project of corporate reputation-building, technological progress and global standardisation.

20 Conversation with Lloyd's Register archivist, Max Wilson.

21 'Lloyd's Surveyorship – Meeting of Shipowners' *Dundee Courier*, 28 November 1855, p.2.

Managing distance and technological transition

By the beginning of the 1850s, several things had become clear to the General Committee of Lloyd's Register. Firstly, it became apparent that steam power was going to form a larger part of shipping than had been imagined even a decade previously. This would have been particularly evident from where the Committee sat in London: shipyards in the capital were early adopters of steam technology, and were 'among the first to combine the skills of the shipwright and the engineer to produce steamers'. Of the 868 steam vessels entered in the Register in 1845, 198 were London-built and were largely also London-owned[22].

It was also clear however that the centre of gravity of steam vessel production and technological innovation was shifting from its early prominence in the south to the north of England, and by 1851 many of the London yards were moribund[23]. Shipbuilders on the Tyne and Tees began to outstrip the southeast by the end of the 1840s, and were leaders in industrial innovation by the early 1850s. It was the Palmer Brothers of Jarrow who developed one of the earliest iron screw-propelled colliers in 1852 and in the same year the *W.S. Lindsay* was launched from Newcastle, the largest iron ship ever to have been built, designed specifically to transport British emigrants to Australia[24]. Liverpool meanwhile became the epicentre of iron shipbuilding in the 1840s and early 1850s, by which point 55% of the output of shipyards there were wrought of iron, and wooden shipbuilding rapidly declined[25]. As London and the southeast declined in their technological superiority, the star of shipyards in the northwest and northeast was rising.

Alongside this surge in the development of shipping technologies came regular reports of attendant disasters. This is a story which is rarely now told about industrial Britain outside specialist academia, but newspapers during the 1830s, 1840s and 1850s were replete with stories of steamers having capsized due to their engines overheating or through structural problems, causing multiple casualities and deaths and leading to a national crisis of confidence in maritime steam power. Crucially, as steam became more prevalent along the coasts of Britain, many of these ships took passengers, and so losses were often represented as moments of national mourning and public tragedy. In 1850, the steamship *Royal Adelaide* sank, killing 300 men, women and children and the *Edmond* passenger steamer also sank in the same year with almost 100 fatalities. Out of the port of Liverpool alone, 80 steamships were lost at sea or ran aground in this period[26].

Alongside this surge in the development of shipping technologies came regular reports of attendant disasters

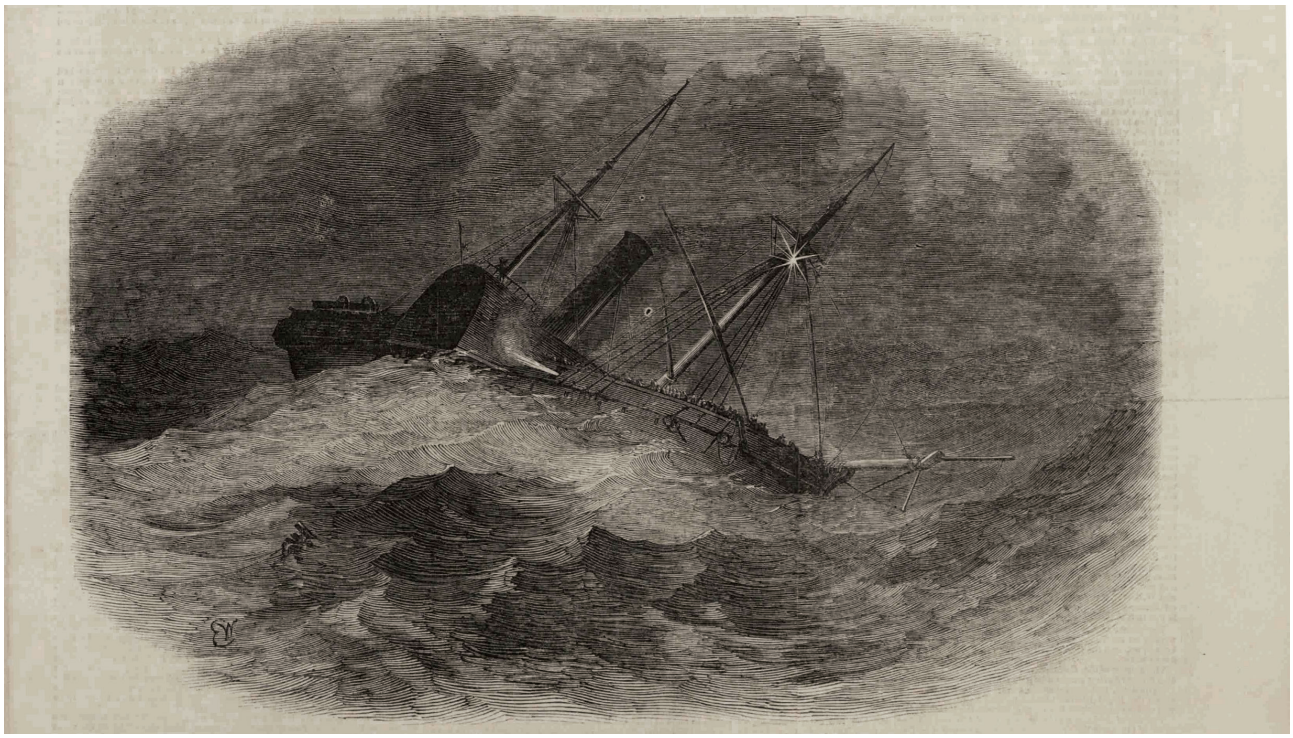
22 Sarah Palmer, 'Shipbuilding in Southeast England, 1800-1913' in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century* (Liverpool: 1993), pp. 57-59.

23 Ibid, p.59.

24 Ibid, p.59.

25 Frank Neal, 'Shipbuilding in the Northwest of England in the Nineteenth Century' in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century* (Liverpool: 1993), pp.118-120.

26 Liverpool vessels sunk: https://www.liverpool.ac.uk/~cmi/books/earlySS/earlySS.html



The *Royal Adelaide* makes the front page of the *Illustrated London News*, Saturday 6 April 1850. The story about the disaster follows on the inside page of the newspaper. ***Image © Illustrated London News Group. Image created courtesy of THE BRITISH LIBRARY BOARD.***

In 1848, an alarmed Justice of the Peace wrote to the then Home Secretary, George Grey, 'calling your attention to the loading and management of our sea-going Steam Boats, as I felt the lives of many are daily endangered from the indiscriminate use made of passenger carrying steamers', claiming that many he had lately seen were not fit for the purpose of carrying cargo or passengers[27]. Indeed, the feted *W.S. Lindsay*, launched so proudly from Newcastle, proved unstable once at sea, and heeled over on the Downs on its maiden voyage before being towed back at the cost of £3,000[28].

Early steam vessels were thus far from reliable, and the Lloyd's Register Committee, with its corporate reputation only recently intact, needed to ensure that its classifications accurately reflected the quality of new ships and guard against the possibility of association with maritime disaster. Mitigating risk through classification was the major aim of the newly reformed Lloyd's Register in 1834, and as steamship building ventures grew in the regions beyond London, so did a sense that greater standardisation between them was needed.

27 TNA HO 45/2439

28 Michael Clark, 'William Schaw Lindsay: righting the wrongs of a radical shipowner', *The Northern Mariner*, Vol. 20, No. 3 (2010), p.289.

Control from afar

These developments around safety concerns coincided with with a wider opinion amongst Committee members that the surveyors who had initially been installed in their home ports in the 1830s were perhaps not best placed to remain loyal Lloyd's Register men, or to exercise impartiality and objectivity in their assessments of a ship's classification[29]. The closeness of community relations in ports was deeply troubling to the Committee in London. Concerns over the potential for bribery amongst surveyors who were so settled in their communities came to the fore during this period, and a strategy was developed in an attempt to control local influences on Lloyd's Register employees in port towns. Indeed, the first generation of recruits had stayed in the communities they came from, with familiar associations, as we have seen, with many of the shipbuilders who might desire a better classification than the one initially offered to their new steam vessel.

The Lloyd's Register employment records tell the story of a stark change in practice from the early 1850s onwards in response to these concerns. The first generation of surveyors, as we have seen, were employed in the port communities they were originally from and remained there throughout the duration of their surveying careers. From around 1850 however, a new policy saw men offered substantial sums of money in salaries to leave their homes and to relocate, not just once, but repeatedly over the course of their career. This was true across the board from 1850, but a representative example is the employment of Henry J. Boolds. Boolds was employed in London in 1855 at the age of twenty-eight on a wage of £150, and was moved to Newcastle in 1858, to Greenock in 1860, to North Shields in 1880, and back to Newcastle in 1883. With every move, his salary increased markedly, meaning that by the end of his career he was earning £700 per annum, compared to the average adult male wage of £56 per annum in the period[30].

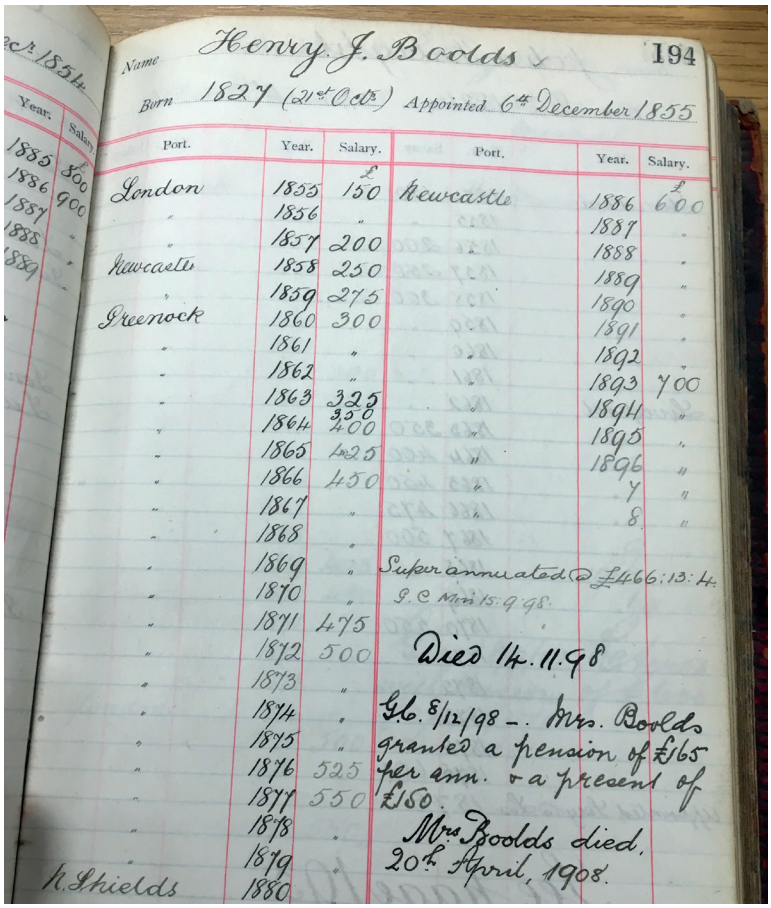
Surveyors were thus financially remunerated to resist belonging to their locality and to retain the professional distance from the working life of the port which they needed in order to objectively survey. This seems to have served the second generation of surveyors well. On the whole, they had long and extremely lucrative careers; the pay-off for being disallowed stability or attachment to place. The first generation of surveyors meanwhile had comparably short careers, with the majority who were hired in 1834 either having resigned or been discharged. Of a random sample of fifteen surveyors who were recruited in the 1830s, only two were still in employment by 1850. This further suggests a degree of tension between 'centre' and 'periphery' in the early years of the Lloyd's Register surveyor as the Committee sought to establish how best they could maintain control and consistency from afar.

Furthermore, the Committee reasoned that once installed, however temporarily, surveyors perhaps needed some surveying themselves. In 1840 a 'Visitation Committee' was established. This annual travelling group of management figures from the central office in London moved through different ports and shipyards to spot check the work of surveyors and shipbuilders[31]. The detailed minute books of these visits are located in the Lloyd's Register organisational archive today, and they depict the close assessment of personnel which

29 Global History of Capitalism Project, 'The "A1" Reputation of the Lloyd's Register of Shipping' (Oxford: 2019), p.2.

30 Lloyd's Register Archive & Library, Surveyor Employment Logs, 1834 – 1914.

31 See Lloyd's Visitation Committee books, 1851 – 1879 (class marks 10101, 10102)



Name Henry J. Boolds 194

Born 1827 (21st Oct.) Appointed 6th December 1855

Port.	Year.	Salary. £	Port.	Year.	Salary. £
London	1855	150	Newcastle	1886	600
"	1856	"	"	1887	"
"	1857	200	"	1888	"
Newcastle	1858	250	"	1889	"
"	1859	275	"	1890	"
Greenock	1860	300	"	1891	"
"	1861	"	"	1892	"
"	1862	"	"	1893	700
"	1863	325	"	1894	"
"	1864	350 400	"	1895	"
"	1865	425	"	1896	"
"	1866	450	"	1897	"
"	1867	"	"	1898	"
"	1868	"			
"	1869	"	Superannuated @ £466:13:4.		
"	1870	"	S.C Min 15.9.98.		
"	1871	475			
"	1872	500	Died 14.11.98		
"	1873	"			
"	1874	"	G.C. 8/12/98 – Mrs. Boolds granted a pension of £165 per ann. & a present of £150.		
"	1875	"			
"	1876	525			
"	1877	550			
"	1878	"	Mrs Boolds died, 20th April, 1908.		
"	1879	"			
A. Shields	1880				

The entry for Henry J. Boolds in the 'Staff Bible', kept at the Lloyd's Register Foundation Heritage and Education Centre. ***Image by Alix Mortimer.***

the Committee were engaged in, as well as the intrusion which the 'visitation' could represent into the working lives of shipbuilding communities. In 1852, during the first round of visits, the Committee visited Stockton, where steamship building was entering a boom phase. They reported back that Mr. McEwen, surveyor of Stockton 'seems to understand his duty well & to be well received'. 'It is, however, obvious', the committee added, 'that his salary is £100 Per Annum is not sufficient to enable him satisfactorily to support his position as a surveyor, the exclusive officer of the Society', clearly suggesting that he would need more money if he were to avoid taking bribes and remain 'exclusive'[32].

Indeed, the men who defended David Crighton in Dundee in 1855 unanimously insisted that he had never taken a bribe, repeating that he 'scorned a bribe' or would 'refuse a bribe'. Whilst this may well be true, it is interesting how frequently this was brought up in his defence, and suggests there was an assumption that openness to bribery and collusion is one of the reasons why he might be dismissed from service[33].

32 Lloyd's Visitation Committee Notes: 10101

33 'Lloyd's Surveyorship – Meeting of Shipowners' *Dundee Courier*, 28 November 1855, p.2.

The dismissal of David Crighton is also interesting in terms of timing and technological change in ports. His removal in 1855 came only two years after Gourlays of Dundee, who had established themselves first in the iron founding business in 1841, added marine engineering and shipbuilding to their specialisms in 1853. Gourlays had quickly became the largest yard in Dundee, pioneering steam on the Tay, and in the two years before Crighton was replaced was doing a booming trade in new iron-clad vessels and steamers, which he would have been directly involved in overseeing[34].

Further research is needed here to establish a direct connection between suspicions of corruption and the introduction of industrial technology, but it seems clear that as industrial maritime innovation moved further away from London, the Lloyd's Register Committee decided to keep closer tabs on Lloyd's Register surveyors. The deputation to defend David Crighton failed entirely, and by 1856 we see a new surveyor installed in the organisation's employment records, Mr Thomas Alexander, who was moved from Aberdeen, to London, and then to Dundee to take up residence in his new charge in 1856, and was paid the very decent sum of £300 to carry out his duties there[35]. Crucially, Alexander would be appointed as an exclusive surveyor, thus banning him from the types of close association with the shipbuilding community which had clearly been seen as a problem in the case of Crighton[36].

A key element of institutional management and bureaucracy in the early nineteenth century was managing of distance from the centre through networks of correspondence. As Lloyd's Register expanded, the Committee was increasingly concerned with ensuring its surveyors conformed to ideals of objectivity and standardised observation. This had filtered down to the psyche of surveyors themselves to some extent even by the 1850s. James Wood, the surveyor for the port of Bristol in 1854, encountering a troublesome ship owner named Avery Follett, wrote to assure the Lloyd's Register secretary that, 'if I knew Mr Follett was my most deadly enemy, it would not influence me one degree in the execution of my public duty'[37].

As Lloyd's Register expanded, the Committee was increasingly concerned with ensuring its surveyors conformed to ideals of objectivity and standardised observation

34 Anthony Slaven, 'Shipbuilding in Nineteenth-Century Scotland' in in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century* (Liverpool: 1993), p.174.

35 Lloyd's Register Archive & Library, Surveyor Employment Logs, 1834 – 1914.

36 Notes from Barbara Jones and Nigel Watson *Lloyd's Register: 250 Years of Service* (London: 2010), p. 25.

37 Lloyd's Register Archive & Library, Letter from James Wood to Charles Graham, 23 September 1854.

Lessons from the past

The ideal surveyor, as far as Lloyd's Register were concerned, was technically knowledgeable but entirely impartial – at once present in and removed from the locality they operated in. As we have seen, during the first decades of their employment, this did not work on the ground, and although surveyors were supposed to be employees, the first generation at least often ended up as mediators between locality and centre.

There are lessons to be gleaned here about the relationship between local and global governance, as well as the way companies manage technological transformation from afar. At present Lloyd's Register, along with many other non-governmental and quasi-governmental organisations, is in the process of reimagining the world of shipping once more, leading a decarbonisation initiative which would see a global network of ports and green shipping corridors connected by investment in sustainable fuel.

Crucially, this initiative will also depend on individuals 'on the ground' in the localities where new fuels are stored, and where new ports are created or older ports adapted to meet the needs of green shipping worldwide. As my conversations with members of the LR Decarbonisation Hub have made clear, the creation of green corridors requires globally-minded organisations to remain attentive to the needs of local communities and regions, and to adapt to these if it is to create a successful and enduring infrastructure. Unlike the Lloyd's Register of the early Victorian period, new initiatives should seek not to override local expertise but to harness it and develop ways of working which are inclusive of regional specificity and knowledge.

This might be done through the identification of niche markets and initiatives which allow for regional differentiation, but there is also a lesson from the past regarding the need to build relationships of trust between the arbiters of global systems and the practitioners of those systems on the ground. This is essential in order to understand how technologies which are already in the process of being implemented in regions might feed into a global network of green shipping, creating synergies which are adapted to local realities.

In the 1850s, Lloyd's Register arguably failed to do this. In the quest for an overriding mode of top-down standardisation, the Committee sought to remove their employees from any established involvement in maritime communities and preferred them to remain distant observers. This meant that the increasingly exclusive surveyors operated on the outside of associational and social life, and although Lloyd's Register aimed to work with builders and operators in ports, fostering relationships between their surveyors and those developing new technologies and harnessing local expertise in innovative forms of ship construction were not prized. Men like David Crighton, for all their local affiliation, had caused the ship owners and builders around them to engage and negotiate with Lloyd's Register as an organisation, and it is telling that his defenders frequently invoked his loyalty to both Lloyd's Register and the locality as the main reason he should be kept as an asset. The insistence that surveyors were either Lloyd's Register men or integrated into their community, and thus dispensable, caused discontent on the ground in many ports.

The results of this policy became clear in the early 1860s, when Lloyd's Register's unwillingness to pay attention to local realities created a deep schism in the organisation's operation. Liverpool had a long history of divergence from the General Committee, requesting a local committee be formed as early as 1834, which led to the development of a 'rival register' which lasted into the 1840s before an agreement to

cooperate was reached[38]. By the 1860s, Liverpool had built on its afore-mentioned industrial expertise to become the pre-eminent constructor of iron vessels, but noted repeatedly that they were unsupported and misunderstood in this venture by the Committee, which had dragged its feet over formulating usable rules for iron vessels, classifying iron shipbuilding as 'experimental' and thus unsuitable for classification[39]. For Liverpool shipbuilders, who had been using iron since the 1830s, this refusal to classify ignored the realities of local expertise and overrode the needs of shipbuilding communities along the Mersey[40]. In response, in 1862 Liverpool broke away and created their own Liverpool Underwriters Registry for Iron Vessels which challenged the central authority of Lloyd's Register and claimed to better represent the developments taking place in the northwest of England.

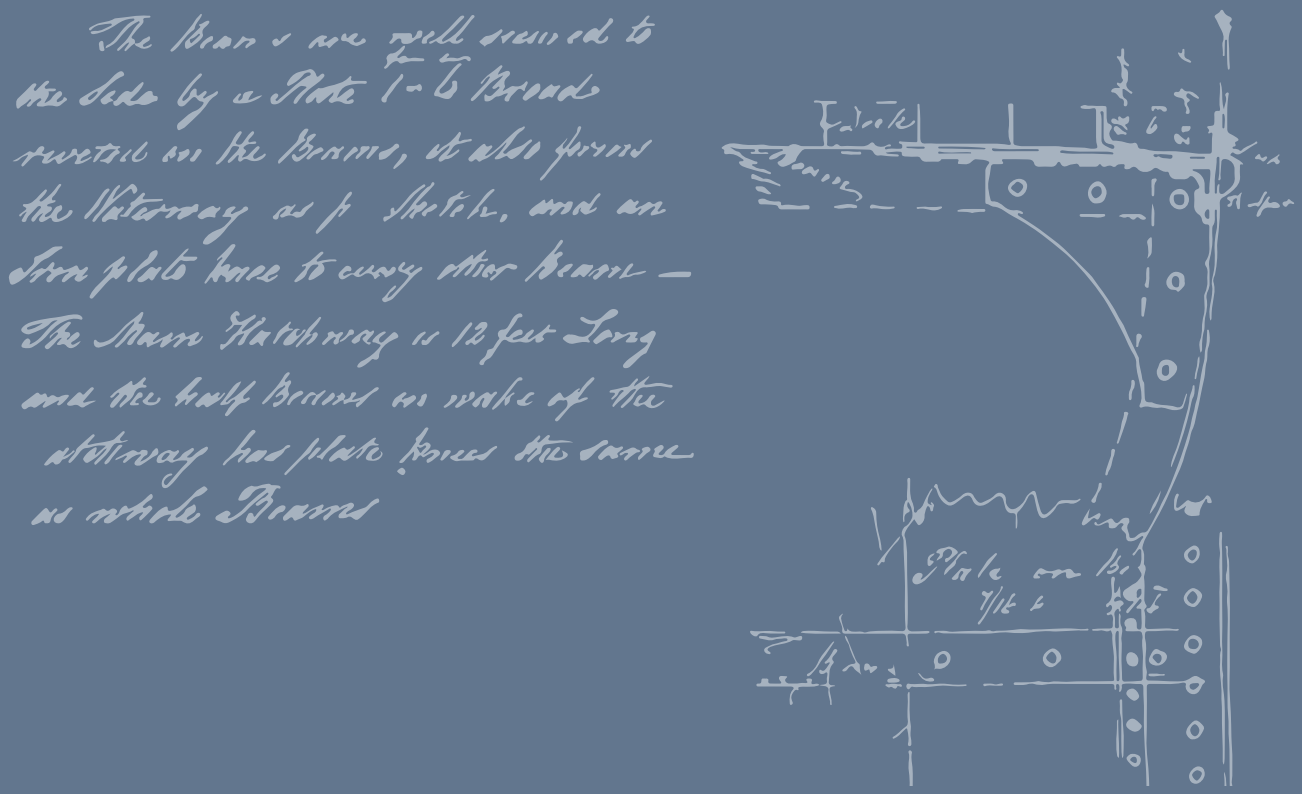
There was clearly a simultaneous need for both national oversight and responsiveness to local technological, social and cultural realities. By failing to heed regional demands and local expertise and imposing its own standards formulated at the top of the organisation by the General Committee during a period of immense technological change, Lloyd's Register had fractured its unity of purpose and rendered itself, temporarily at least, unable to stay at the forefront of developments in shipping. This is a lesson for all international corporations and organisations which attempt to facilitate adherence to a common set of policies or processes worldwide: close attention needs to be paid to both national and regional priorities to develop a network which is robust enough to withstand long-term change, and companies should factor responsiveness to this into their forward planning. This is particularly apposite at Lloyd's Register in 2023, as the organisation, like others in the sector, attempts to facilitate global technological change in the shipping industry and can perhaps learn from past corporate decisions to override local realities.

There was clearly a simultaneous need for both national oversight and responsiveness to local technological, social and cultural realities

38 Nigel Watson, *Lloyd's Register: 250 Years of Service* (London: 2010), p. 26.

39 Ibid, p. 109.

40 Frank Neal, 'Shipbuilding in the Northwest of England in the Nineteenth Century' in Simon Ville (ed.) *Shipbuilding in the United Kingdom in the Nineteenth Century: A Regional Approach* (Liverpool: 1993), p. 117.



Local knowledge, global change: a study of Lloyd's Register surveyors 1834 - 1860

Hindsight Perspectives for a Safer World
Report Series: No.2023.1

A collaboration between History & Policy at King's College London and the Lloyd's Register Foundation

March 2023