

Infosheet No.56

The Technical staff of Lloyd's Register

I propose, therefore, to assume that you already possess some knowledge of the origin and growth of that immense organization that has its principal office at 71, Fenchurch Street, London, and is represented all over the world by those experts in ship construction and repair called Surveyors to Lloyd's Register; also that you realize the distinction between a Lloyd's Surveyor (as a Surveyor to Lloyd's Register is shortly, but somewhat erroneously called) and a Lloyd's Agent, who is the representative of the Corporation of Lloyd's.

[Extract from 'Lloyd's Register - What it is and What it does – Ernset L Jacobs (A lecture delivered at the Insurance Institute of London, 1946)']

Early days

'The committee did not at that time employ an exclusive staff of surveyors, nor did they charge for surveys. A handful of reasonably experienced men, retired sea-captains and the like, were paid to inspect ships and assign classification, and their payment came from the fees charged for subscriptions to the Register.' [Two Hundred Years' *100A1* (1960) number 5]

From 1834

The 1834 *Register Book* announced:

"The utmost care and discrimination has been exercised by the Committee in the selection of men of talent, integrity and firmness as surveyors, on whom the practical efficiency of the system and the contemplated advantages must so materially depend; the Committee have in their judgement appointed these persons only who, from the testimonials they produced, appeared to them to be the most competent to discharge the important duties of their situations with fidelity and ability, and to ensure strict impartial justice to all parties whose property shall come under their supervision.

No surveyor shall be permitted to receive any fee, gratuity or reward whatsoever to his own use and benefit, for any service performed by him in his capacity of surveyor to this Society, on pain of instant dismissal.

The surveyors of the Society will be directed to attend on Special Surveys of ships under damage, the charge for which will be regulated according to the services performed".

Distinction between exclusive and non-exclusive surveyors

Non-exclusive surveyors carried out all surveys except those for vessels under construction. They were non-exclusive because they were allowed to undertake work for others, provided this had the consent of the General Committee. Non-exclusive surveyors were paid a smaller salary plus a percentage of fees from the

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surveys they performed, reflecting their appointment for less busy ports. Their numbers gradually declined as the Society appointed more exclusive surveyors to cope with a growing volume of work, though there were still non-exclusive surveyors in the 1980s.

Exclusive surveyors were salaried officers who undertook all surveys and other work on behalf of Lloyd's Register (LR), including surveys of ships under construction. Later on, when plan approval was delegated by the General Committee in certain parts of the world, it was only exclusive surveyors who were permitted to carry out this out.

From the outset the Society also banned its exclusive surveyors from having an interest in any of the ships under their survey or expressing any view on the state of the vessel to the builder or owner. They were accountable only to the General Committee or the Sub-Committee for Classification, which dealt with decisions on classification from 1835. They were also regularly moved from port to port to prevent them becoming the poodle of the local shipbuilders.

The Society imposed less onerous conditions upon the 50 non-exclusive surveyors in smaller ports over whom it had less control. But they too were held to account, along with their fully employed colleagues, initially through visits from the Principal Surveyor and then from the Visitation Committee, formed in 1840. Made up of members of the General Committee, including the Chairman, as well as the Principal Surveyor, Secretary and Head Messenger, this visited a different number of outports every year. They watched the surveyors at work, spoke with builders and owners, inspected records and accounts and discussed procedures. In 1851, for instance, the Committee visited Newcastle, Sunderland, Leith, Glasgow, Greenock, Whitehaven, Harrington, Workington, Maryport and Liverpool. [more on this at end of paper]

A reputation for objectivity and impartiality was crucial in reaching decisions so important for the safety of those who would eventually take the ship to sea. The opinions of the LR's surveyors and officers were sought during this period by several official enquiries, including the UK parliamentary investigations into steam-vessel accidents in 1839 and shipwrecks in 1843. An earlier House of Commons committee had already asserted in 1836 that the classification system would 'effect a great improvement in the general character of the ships of the United Kingdom'. The General Shipowners' Society concluded in 1840 that the work of the Register was 'impartially and beneficially performed', while the *Shipping & Mercantile Gazette*, once hostile, reported that the General Committee had 'exercised their functions with honour, firmness and impartiality'. [from *Lloyd's Register 250 years of Service*, Nigel Watson (London, 2010)]

Shipwright' or 'Nautical' surveyors

During the time of wooden ship building, two types of surveyor were required by Lloyd's Register. These were designated 'Shipwright' or 'Nautical' surveyor, depending on their experience and capabilities.

Shipwright surveyors

The Shipwrights were "practical men possessing the highest attainments of their profession, which enabled them to judge the quality and construction of ships, having general knowledge and experience, capable of corresponding, and competent, by superiority of talent, to undertake the inspection and survey of all matters that may arise relative to shipping concerns." These men would have

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served an apprenticeship in the usual manner, which usually lasted seven years, and then worked for a number of years under the direction of a Master Shipwright. Many of them were Foremen in the naval dockyards.

Nautical surveyors

The practical Nautical men “shall be persons well informed in the construction and quality of ships, have had experience in the superintendence of their building, repairs and equipment, combined with a general knowledge of nautical affairs, capable of corresponding thereon, and competent to undertake the inspection and survey of all matters relative to shipping concerns that may be required of them.” These men were usually shipmasters with a very good working knowledge of the construction and repair of ships.

The primary duty of the Shipwright Surveyors was the inspection of new vessels while building, and that of the Nautical Surveyors was to attend to the survey of vessels afloat. Both types of surveyor would survey older vessels in dry-dock, wherever this was practicable.

During the early years of our organisation the majority of LR’s Shipwright surveyors had worked previously in the Royal Dockyards and the records show the Dockyards they came from - Deptford, Woolwich, Chatham, Sheerness, Portsmouth and Plymouth. There was also a concentration of private shipyards near Royal Dockyards, i.e. Ipswich, Thames/Medway, Solent/Isle of Wight and Plymouth plus a number of overseas yards, including Gibraltar, Halifax and Jamaica. All proved a good source of manpower and LR actively poached from these places!

Ship and Engineer Surveyors

‘This man is an Engineer, but having received training at the ports in practical ship work, he is able to supervise repair work and to put vessels through a Periodical Survey – both the hull and the engines. In the case of a heavy damage to hull, a ship man would be sent to take charge or to advise as to what is necessary. At single-man ports abroad (non-building ports) it is usual to have the dual Ship and Engineer Surveyor.

Engineer surveyors

With bigger and more complex ships being built than ever before, the first engineer surveyor was appointed in 1874. Within ten years such men accounted for a more than a third of technical staff, with an increasing number based overseas. Their scope ranged beyond the different propelling systems in use [by 1955] to cover all kinds of machinery having marine application – electricity, refrigeration etc. In nearly all cases the Engineer Surveyors had served their time in the machinery workshops and at sea.

Electrical Engineers

The increase in the number of motor ships gave considerable impetus to the use of electricity for the operation of auxiliaries previously driven by steam. With this growth in the use of electrical machinery, the Committee appointed trained Electrical Engineers to deal solely with this class of work, and in 1917 two Electrical Engineers were appointed, one to Glasgow and one to Newcastle. Further appointments followed at Liverpool and in London.

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Other surveyors

Additional surveyors were appointed for steel-testing duties, a number of Inspectors of Forgings were appointed (both from late 1880s) and briefly (1930s) Aircraft surveyors. During the First World War LR's Steel Testing staff tested nearly 8 million tons of ship and boiler steel for use in shipbuilding.

'On the Continent at all the big building centres we have staffs similar to those at our own big ports – viz: - a Principal with Ship Engineers and Electrical Surveyors. Plans likewise are examined by them, not everywhere – only straightforward ones – others must come to London.'

[*'Lloyd's Register - What it is and What it does – Ernset L Jacobs (A lecture delivered at the Insurance Institute of London, 1946)'*]

ANNALS OF LLOYD'S REGISTER

Throughout the seventies, many additions were made to the Staff of Non-Exclusive Surveyors abroad, the number of which rose from five in 1870 to over sixty in 1880.

In the period reviewed in this section, covering in the main the wood and iron ship era, the Surveying Staff employed in the United Kingdom showed little increase from the point of view of numbers; but, whereas of the 63 Surveyors originally appointed only 13 were Exclusive servants of the Society, 49 out of the 64 on the staff in 1874 were Exclusive Surveyors. Many of the wood shipbuilding ports, especially in the South-West of England and in Wales, had in the interim almost ceased production, and the Surveyors originally appointed there were not replaced. On the other hand, the use of iron in shipbuilding greatly increased the surveying duties on the Clyde and North-East Coast, and necessitated the appointment of Surveyors with sound theoretical knowledge as well as practical experience. Moreover, the submission of plans for the Committee's approval before commencing construction, a practice which came in with iron ships, required the maintenance of a highly-trained technical staff in the London Office to deal with them. Many young men were recruited for this purpose from the Royal School of Naval Architecture and the Royal Naval College, Greenwich. Some of them, after receiving a course of training in the London Office, were sent to important shipbuilding outports to supervise new construction. In this manner the personnel of the Staff changed with the requirements of the period—the practical Shipwright and Nautical Surveyors of the days of wood ships giving place to the highly-trained young naval architects of the iron ship age.

To encourage the study of the principles of Naval Architecture and Marine Engineering, the Committee in 1877 resolved to grant the sum of £100 per annum towards

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Annals of Lloyd's Register, 1934

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Training

Bernard Waymouth believed that a combination of practical and theoretical training delivered the best surveyors. Recognising the need to foster an improved scientific approach to shipbuilding, LR began sponsoring scholarships to British universities offering relevant courses from 1877. But Waymouth, speaking in 1873, was also clear that 'you cannot make a surveyor in a day ... the best thing our committee can do is to take young men, well-educated and well-grounded in the theory and practice of their profession, and then put them with good experienced surveyors, and in the course of a few years they make first-class men'. The Society began recruiting young men mainly from the Royal School of Naval Architecture but also a few from the Royal Naval College at Greenwich, training them in London and sending them to major shipbuilding ports.

Benjamin Martell (1825-1902)

Martell was trained as a naval architect at the Royal Naval Dockyard in Portsmouth. After managing Charles Lamport's shipyard in Workington, he joined Lloyd's Register as an assistant surveyor in Sunderland in 1856. As the Society's first and last Chief Surveyor from 1872 to 1900, he brought a more rigorous and scientific approach to the Society's work at a time of considerable technical innovation in shipping, producing numerous papers on subjects such as tanker design, steel shipbuilding and water ballast. The calculations he produced gave scientific credence to the campaign to legislate in favour of compulsory load lines and his role should not be under-estimated.

He was a huge influence on the Society and was affectionately known from his stature as 'Our Little Ruler'. He endowed a scholarship in naval architecture on his retirement aged 75, when his successor took the title of Chief Ship Surveyor.

Appointment of overseas surveyors

Since 1834 one of the Society's priorities had been to build up a network of staff at the main ports throughout the UK. As a result, it had turned down several pleas for the appointment of surveyors overseas. In 1851 the Society relented, agreeing to a request from a group of shipowners in St John, New Brunswick, where ships were still being built for the UK, to fund the appointment of a surveyor for five years. The first, Thomas Menzies, was sent out in 1852, followed by a second, John Tucker, in 1853 and shortly afterwards by two assistants. Menzies and Tucker were the first exclusive surveyors appointed overseas. Menzies was the son of Leith shipbuilder Robert Menzies who had built the wooden paddle steamer *Sirius* in 1837 which in the following year became the first vessel to cross the Atlantic from Europe to the United States under continuous steam. In the 1850s and 1860s the Society appointed several surveyors in Belgium and Holland as well as one in Shanghai, where the cost was shared with a marine insurance company.

The expansion of the British merchant fleet carried LR with it around the globe. By the mid-1870s the Society was appointing non-exclusive surveyors all over the world, from Scandinavia and Italy, Burma and South Africa to the United States, Australia and New Zealand. The number of exclusive overseas surveyors grew during the 1880s, prompted by the request of a major marine underwriter insuring a thousand steamers; the first of these new appointments was Thomas Congdon, sent out to New York in 1881. By the First World War there were few countries of any importance where LR did not have a surveyor. In 1914 there were 153 surveyors based overseas out of a total of 360.

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Visitation Committee

'The work of the surveyors in outports was supervised from LR's head office in London and , from time to time, by visits of the Visitation Committee, consisting of members of the General Committee. Their reports include fascinating glimpses of the practices and personalities of the time.' – John Alexander

The Visitation Committee travelled annually to the various shipbuilding ports of the United Kingdom in a particular area in order check on the work of surveyors, the running of our offices and to meet with shipowners.

The Visitation Committee can also be referred to as the Sub-Committee and this would usually have consisted of about five people made up of the following: The Chairman of Lloyd's Register; the Chief Ship Surveyor (complete with a copy of the *Rule Book*, to ensure that standards were being maintained in shipbuilding and repair); members of the General Committee with a good knowledge of shipping (often these men would also sit on the Sub-Committee for Classification and have a high level of technical expertise, or they would be shipowners who sat on the General Committee); in addition the Secretary of Lloyd's Register was usually present to oversee the smooth running of visits; and the Head Messenger to relay information back to London.

Duties of Surveyors

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING,
2, White Lion Court, Cornhill, E.C.

October, 1899.

DUTIES OF PRINCIPAL SURVEYOR.

Gentlemen,

With reference to the relative position of Principal Surveyor and their Colleagues at the chief ports, I am directed to acquaint you that the Committee, having had this subject under consideration, have adopted the following instructions for the guidance of Principal Surveyors, and I have to request that you will be careful to be governed thereby in the performance of your duties.

The Principal Surveyor is desired to make himself acquainted with the duties throughout the district to which he is appointed, and to see that the work is properly apportioned: to supervise the duties of the entire district and to satisfy himself that they are properly carried out.

He shall so arrange the surveying work of the district as to admit of his attending in the office daily to meet his colleagues and to afford them the benefits of his advice and experience in conducting their surveying duties from day to day, and also to take such part in consultations with Builders and Owners as may be found necessary.

He shall visit as frequently as practicable all vessels building under survey in the port and district, so that he may acquire a general knowledge of all work in hand. It cannot be too often impressed on the Surveyors that the Committee are most anxious both to secure honest work and as nearly as possible a uniform operation of the Rules.

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The Principal Surveyor shall particularly regard it as part of his responsibility to see that no deviations from the requirements of the Rules are passed, in vessels being built under the Society's survey, without the sanction of the Committee being first obtained. In any case in which it is brought to his notice, or he himself observes, that the Rules are not being complied with, it is the duty of the Principal Surveyor to give proper and timely notice to the Shipbuilder. Should his recommendations to secure compliance with the Rules not be adopted, The Principal Surveyor, in conjunction with the local Surveyor, shall report fully the circumstances without delay for the consideration of the Committee.

The Principal Surveyor is to be ready at all times to accompany any of the staff on survey and advise them in special cases.

It is to be distinctly understood, however, that the general supervision which the Principal Surveyor is expected to exercise is not intended to relieve the Surveyors of their individual responsibility. Should differences of opinion arise between the Shipbuilder and the local Surveyor, they are to be referred to the Principal Surveyor of the port, who, if unable to arrange these difficulties, is to communicate at once with the Committee on the subject.

The arrangements of the Principal Surveyor for the division of the duties of the surveying staff in the port and district are to be subject to the Committee's approval, and he will therefore, in the first instance, submit his proposals in the matter for their information.

In all cases of Special Surveys No. 3 of iron and steel vessels and re-classification of wood and composite vessels, the Principal Surveyor is to join the local Surveyor in the survey, and sign the report.

Likewise, in all cases of extensive damage the Principal Surveyor is to join the local Surveyor in the survey, and sign the report.

The Principal Surveyor is required to see that all surveys held in the district are reported promptly in accordance with the Committee's instructions.

I am, Gentlemen,
Your obedient servant,
A.G. DRYHURST,
Secretary.

This Circular will supersede the instructions contained on pp. 5 & 6 of the printed "Instructions to Exclusive Surveyors."

SUB-COMMITTEE FOR SURVEYORS,
Tuesday, 7th November, 1899

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At a building port a Ship Surveyor looking after new construction would be responsible for the output of five or six building berths, whilst his Engineering colleague is similarly engaged in the shops producing the propelling machinery and auxiliaries, and watching its installation in the vessel.

What does the Surveyor actually do? Well, he spends his day with calipers, gauges, testing hammer and knife checking the scantlings of the materials worked into the structure from the approved plans, making sure it has been tested by the Society's Surveyors, watching that the punching, drilling, riveting and caulking are good—wandering around stages, up and down hold ladders, through double-bottom tanks and in every hole and corner where men are employed whilst the vessel is being built on the slipway and finished off afloat. When in any doubt or difficulty or faced with alternative proposals requiring consideration, he has a Principal Surveyor to consult and if necessary the London Office Staff.

He is, of course, a born diplomat, as well as being technically skilled, and he holds an amicable balance between the builders, the Owners' representatives and the requirements for Classification.

The big ports also undertake repairs, and a Surveyor has a round of repair establishments, dry docks and stretches of river to cover. He is called on to carry out the Periodical Surveys, Freeboard Surveys, recommend the repairs necessary for the vessel to maintain her class, see that these repairs are properly carried out and to test oil fuel and water ballast tanks on completion of repairs.

He has frequently to decide in damage cases whether he can issue a certificate of seaworthiness for the vessel as she is or whether temporary or permanent repairs are essential. Making out his report is not the least important part of a Surveyor's duty.

Extracted from 'Lloyd's Register - What it is and What it does – Ernset L Jacobs (A lecture delivered at the Insurance Institute of London, 1946)'

LR sources held at the Heritage & Education Centre in London:

[Lists of Surveyors](#) (including ports based at)

Staff Bibles

GC minutes

Surveyors Committee/Sub-Committee for Surveyors

Instructions to Surveyors ([Exclusive](#) and [non-exclusive](#))

Visitation Committee Minutes - Holdings: 3 Bound volumes - covering the years 1851 to 1879; Loose sheets – sporadic, early as 1840 late as 1900s

For access contact: hec.info@lrfoundation.org.uk

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