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978-1-108-05289-4 - The Life Story of the Late Sir Charles Tilston Bright Civil

Engineer: Volume 2

Edward Brailsford Bright and Charles Bright

Excerpt

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Chapter I

THE MEDITERRANEAN CABLES

SHORTLY after the laying of the 1858 Atlantic Cable, the attention of Government had been directed to the importance of establishing direct lines of telegraphic communication between Great Britain and her dependencies.

Gibraltar was the first point considered and decided upon. Thus, in the House of Commons on July 28th, 1859, Sir W. Gallwey asked the Secretary of the Admiralty "what experiments were being made before risking the sum voted for the Gibraltar Cable."

Lord Clarence Paget replied that "Experiments were in progress on behalf of the Board of Trade, by those eminent engineers, Sir Charles Bright and Mr. Robert Stephenson, with a view to testing the composition of the outer coverings of telegraphic cables."¹

In conjunction with Mr. Stephenson, Charles Bright drew up a report on the subject. Bright was also independently consulted regarding the proposed line by the late Right Hon. Sir Stafford

¹ *The Times*, July 29th, 1859.

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Northcote, Bart., M.P.,¹ as President of the Board of Trade. Some of the correspondence will be found in the Appendices at the end of this volume. Eventually, at the request of Sir S. Northcote, Bright sent in a detailed report, estimate, and specification to the Treasury.²

The conductor and insulator recommended by Sir Charles were the same as he had previously suggested, without effect, for the First Atlantic—and were both of much greater dimensions than anything previously done, consisting in fact of nearly 400 lbs. copper per mile to the same weight of gutta percha covering.

The above core was forthwith ordered by Government, and manufactured at the Wharf Road gutta percha works, in accordance with Bright's specification. The outer covering ultimately decided on by Sir Charles was exactly the same as was afterwards adopted for the second and third Atlantic lines of 1865 and 1866—a combination of iron and hemp—with a view to meeting the exigencies of cable operations in deep water. The cable was constructed at Messrs. Glass, Elliot & Co's. factory towards the end of 1859.

Subsequently, the Government decided to use the above to connect Rangoon with Singapore, for

¹ Afterwards the 1st Earl of Iddesleigh, G.C.B.

² See *Parliamentary Blue-Book* respecting "The Establishment of Telegraphic Communication in the Mediterranean, and with India," 1859.

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the purposes of a more rapid communication with China. The war with that country having, however, come to an end before the cable was completed, the necessity for this line was lessened. Thus, its destination was changed a third time; and it finally came into use, in a modified form,¹ as a link with Egypt—one of the stages on the road to India.

Finally, then, this cable found a resting place between Malta and Alexandria, where it was laid towards the latter part of 1861. Throughout the expedition Mr. Canning and Mr. Clifford² acted for Messrs. Glass, Elliot & Co., who had secured the contract for laying, as well as for construction. For further particulars regarding this undertaking, the reader is referred to a paper by the late Mr. H. C. Forde,³ who accompanied the expedition, as well as Mr. C. W. Siemens,⁴ in

¹ As only the core had been made when the destination of the cable was first changed, the outer covering was altered to suit the change of depth.

² On the completion of the first Atlantic cable in 1858, the engagements of these gentlemen having ceased with Sir Charles Bright and the "Atlantic" Company, they joined the staff of Glass & Elliot, as did also Mr. C. V. de Sauty, who acted as chief electrician.

³ *The Malta-Alexandria Telegraph Cable* by Henry Charles Forde, M. Inst. C.E. (*Mins. Inst. C.E.* vol. xxi.). For Charles Bright's remarks in course of discussion thereon, see the Appendices at the end of this volume.

⁴ Afterwards Sir William Siemens, D.C.L., F.R.S.

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different capacities. The cable was laid in three shallow water sections, *i.e.*, Malta-Tripoli, Tripoli-Benghazi, and Benghazi-Alexandria. Perhaps the most remarkable feature in regard to this line, is the fact that laying operations were always suspended at nightfall.

Notwithstanding the dimensions of the core provided, it could not be worked at a higher speed than three words per minute, on account of the instrument adopted—*i.e.* the Morse Recorder.

As we shall see later, these cables were subsequently replaced in 1868 by a direct line from Malta to Alexandria, when Sir Charles acted both as engineer and electrician.

The Balearic Islands connected with Spain.

We must now go back in our narrative, as the undertaking we are about to describe was carried through about a year previous to that just referred to.

For a number of years, from 1855, the deep waters of the Mediterranean had proved a sort of *bête noir* to cable layers, commencing with Mr. Brett's unsuccessful efforts between Sardinia and Bona in Algeria; continued by three failures, in

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1858 and 1859, to connect Candia with Alexandria; followed by two mishaps, in 1860 and 1861, when laying a cable between Algiers and Toulon; and culminating in the untoward essays, thrice repeated, to lay a short line of 113 miles between Oran and Cartagena, in 1864.

In 1860, however, Sir Charles Bright broke the spell for a time, by laying, with success, an important series of four cables for the Spanish Government—viz., between Barcelona and Port Mahon, Minorca, 180 miles; Minorca to Majorca, 35 miles; Majorca to Ivica, 74 miles; and Ivica to San Antonio, Spain, 76 miles—in all 365 nautical miles.

These cables were submerged in great depths, that between Barcelona and Port Mahon being in 1,400 fathoms. They were manufactured by Mr. W. T. Henley. The sections between the three islands contained two conductors each, protected by eighteen outer wires, and weighed 1 ton 18 cwt. to the nautical mile; and the two to the mainland were single wire cables, cased with sixteen wires, and weighing a ton and a quarter per nautical mile.

Sir Charles fitted out a vessel—the s.s. *Stella*—for the purpose of laying the cables.

The work was carried out with great expedition. On the 29th August, 1860, Bright laid the Minorca to Majorca section, completing the shore end and connections next day. The 31st saw the shore end and connections made at the opposite end of the

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island; and the following day the cable was laid between Majorca and Ivica, the landing portion being carried out on the 2nd September. Rough weather delayed operations for two days; but on the 5th, Ivica island was put into telegraphic communication with the Spanish mainland at Javea Bay, alongside Cape Antonio.

The remaining section to be laid was that between Barcelona and Minorca—a distance of about 100 miles. Sir Charles mentions in his diary relating to the laying of this last length: “Weather very bad, and ship pitching and rolling much.”

After laying the shore end at Javea Bay, and making the connections with the Spanish land lines, he went on to Barcelona to complete the longest section—180 miles—thence to Port Mahon, Minorca; but here he met with considerable delay, first by a fault a long way down the main coil, which rendered it necessary for the cable to be turned over into “the after hold to get down to the defect—hands to work day and night.”¹ Then on the 15th September, when ready to start, there came a message from the Spanish Government, “from Madrid, to detain the *Stella* until the arrival of Señor d’Oksza,” the Director of Telegraphs. This gentleman was of Polish origin, his full name being Count Thaddeus Orzechowski, which he had thoughtfully abbreviated for business purposes.²

¹ From Sir C. Bright’s diary.

² Some twenty years later Sir Charles was again

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After waiting till the 17th September, it began blowing heavily till the 21st, when Bright's diary states—

6 a.m., steam up, ready to leave, but it appears the *Bonaventura* (Spanish gunboat to accompany the *Stella*) was not informed yesterday, and cannot leave this morning. Weather fine.

Saturday, September 22.—5 a.m., steam up, but delayed in lifting anchor by the chain of a brig fouling ours. 6.45, steaming out of harbour. 10 o'clock, all ready for starting, but *no current through cable!* Found that Spaniards had *cut the cable and led it up a pole on shore!!* 11.55 a.m., started paying out.

At 1.55 next morning, when in 1,300 fathoms, Sir Charles enters :—

Drum stopped ; brakesman asleep ; found Suter doing Bank's work, having been up all the time himself in the hold. Luckily it was seen to in time.

The latter part was laid in a heavy sea, and there were several troubles from broken outer wires ; but the laying to Port Mahon was successfully finished at night.

These cables worked well for years.

By a coincidence when leaving Port Mahon, homeward bound, on the 26th September, the associated with Count d'Oksza in connection with cables from Spain to the Canary Isles, as will be seen in subsequent pages.

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Stella, with Sir Charles on board, passed the *William Cory*.¹ The latter vessel had just been disappointed in attempting to lay the Algiers-Toulon cable. On board her was Bright's former coadjutor, Mr. (afterwards Sir Samuel) Canning, accompanied by Mr. Donaldson. They were then about to fish for the Algiers end of the cable in shallow water, where they had passed Minorca, to take it into Port Mahon, and thus open communication between Algiers and France, through Spain, by means of the cables which Sir Charles had just laid.

During the time he was delayed at Barcelona, apart from the many objects of interest there, Charles Bright "had the opportunity of witnessing a bull fight at Barceloneta."

¹ Commonly known as the "Dirty Billy."

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Chapter II

1860-1863

Proposed Permanent Exhibition in Paris.

DURING the early part of 1860, Bright was actively engaged on a project brought to him by some leading Frenchmen headed by Prince Napoleon, with a view to establishing a permanent universal exhibition in the building erected in the Champs Elysées for the recent exhibition. Although a large amount of space was applied for by important English, French, and German firms, it was not enough to make it a success, or justify the promoters, or Sir Charles, in carrying out the scheme.

At the beginning of 1860—as well as previously—Charles Bright's time was largely taken up in furthering telegraphic extensions to Hanover, Denmark, the Channel Islands, and Normandy, on behalf of the “Magnetic” and “Submarine” Telegraph Companies, who had a mutual working arrangement. The first of these cables started from the coast of Norfolk, and Sir Charles erected

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a special land line from Cromer to connect it with London. At that time there was a great deal of prejudice against overhead wires, from an artistic standpoint. Thus, every effort was made to render the work as sightly as possible. The poles were furnished with handsome finials, and were painted green, so as to be pleasant to the country eye, with a few feet of white at the bottom to warn vehicles by night. But still these posts did not meet with the approbation that was desired from suburban villa residents; and the song of the wires appears to have acted as an irritant rather than otherwise! The rustics—who, like most of our country folk, had an innate dislike to anything novel—seem to have supposed this humming to be occasioned by the passage of the messages!! On one occasion, when Sir Charles was inspecting part of the new work near Norwich, he noticed that the “ganger”—a powerful man who rejoiced in the sobriquet “Hulks”—had one side of his head much bruised. “Hulks” explained that on putting up a pole opposite a villa, “the old gent came out of his front garden with a spade and caught me a clop on the head with it, so I just twisted his collar till his tongue came out, and then we was quite friend-like!”

The cable from Cromer to Hanover was 280 miles in length. It contained two conductors, and weighed three tons to the mile. The line to Heli-goland and Denmark was 350 miles long, with