drical four-gallon iron vessels, and kept in racks in the ship's magazine. A drying-room for botanical specimens was situated between the funnel casings, and in the middle of the steamer, near the cabins, a chemical laboratory was built. It was furnished with a working bench, a locker-seat, a blow-pipe table, drawers and writing-table, and well stocked with chemicals and chemical apparatus. A light and a dark room adjoined the laboratory, and these were at the disposal of the photographic artist who accompanied the expedition. Apparatus for almost every conceivable thing was placed on board, and no ship ever sailed out of any port better furnished in every way than did the *Challenger* five years ago. She was ably officered, the staff at first consisting of Professor Thomson as director, Captain Nares, "a surveying officer of great experience, and singularly well suited in every way for such a post," as commanding officer, a secretary, three naturalists, and a chemist, chosen on the recommendation of the Royal Society. The full list of officers contains the names of Captain George S. Nares, Commander J. F. L. P. Maclear, Lieutenants Pelham Aldrich, Arthur C. B. Bromley, Geo. R. Bethell, Navigating-Lieutenant Thos. H. Tizard, Paymaster Richard R. A. Richards, Surgeon Alexander Crosbie, Assistant-Paymaster John Hynes, Chief-Engineer James H. Ferguson, Sub-Lieutenants Henry C. Sloggett, Lord George G. Campbell,† Andrew F. Balfour, Arthur Channer; Navigating Sub-Lieutenants Arthur Havergall, Herbert Swire; Assistant-Surgeon Geo. Maclean, M.A., M.B.; Engineers William J. J. Spry,‡ Alfred J. Allen; Boatswain, 2nd class, Richard Cox; Carpenter, 2nd class, Fred. W. Westford; Assistant-Engineers, 2nd class, Wm. A. Howlett, Wm. J. Abbott. Civilian Scientific Staff—Professor C. Wyville Thomson, F.R.S.; J. Y. Buchanan, M.A.; H. N. Moseley, M.A.; John Murray, Dr. von Willemoes-Suhm, J. J. Wild.

Of course, several changes in this staff were made before the voyage was concluded, the most notable change being that of Captain Nares, who was recalled at the close of the second year to take command of the Arctic Expedition. His place in the *Challenger* was filled acceptably by Captain Frank Thomson.

This expedition, officered so well and equipped so thoroughly, has done the world a signal service. The whole of the Atlantic ocean has been surveyed, and sounding observations have been taken, on an average, every one hundred and twenty miles. Excellent specimens of the bottom have been brought up, the sterling character of the apparatus used and the skilful use of the same ensuring this in every instance. The volumes just issued were written, Professor Thomson informs us, "while the great bulk of the observations are still unreduced, while the chemical analyses are only commenced, and there has not been time even to unpack the natural history specimens. Notwithstanding these many drawbacks to a full report, we have, in the handsome books on our table, a careful epitome of the great work which has been performed. At a glance its scope may be realized, and the reader and student will await with some impatience the report which Dr. Thomson promises *in extenso* of the entire results of his voyage of discovery and recovery. Until such a work appears, the present instalment will suffice to show the breadth and character of this deep-sea exploration. In the succinct summary with which Professor Thomson concludes the second volume, the reader may arrive at some conclusion, though inadequate in many respects, of the relative value of this expedition from a scientific aspect. These general conclusions, however, in the absence of the report which will come later, will be read with interest,

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‡ Author of the Cruise of the "Challenger."